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Administration Report of the Public Works Department in the Bombay Presidency for the Year 1927-28

Part I

With a detailed review of the Civil and Military Works

(Part II—Irrigation Works with Accounts and Statistical Statements is issued separately)

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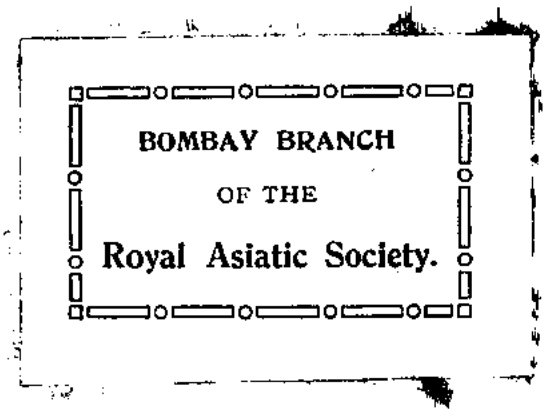

with financial assistance
Government of Maharash
on 22 July 2017

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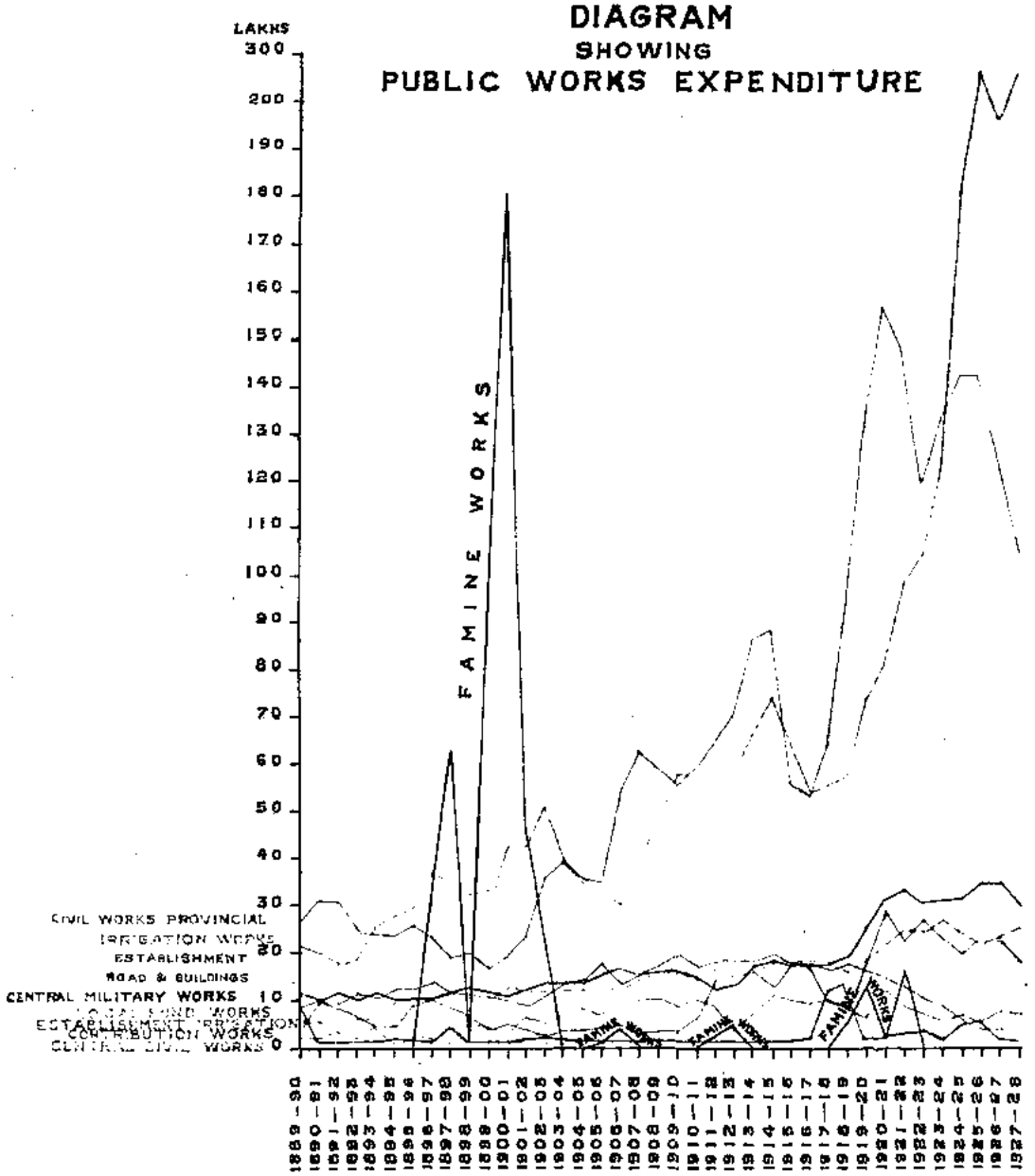
DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE
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FAMINE WORKS
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IRRIGATION WORKS
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ROAD & BUILDINGS
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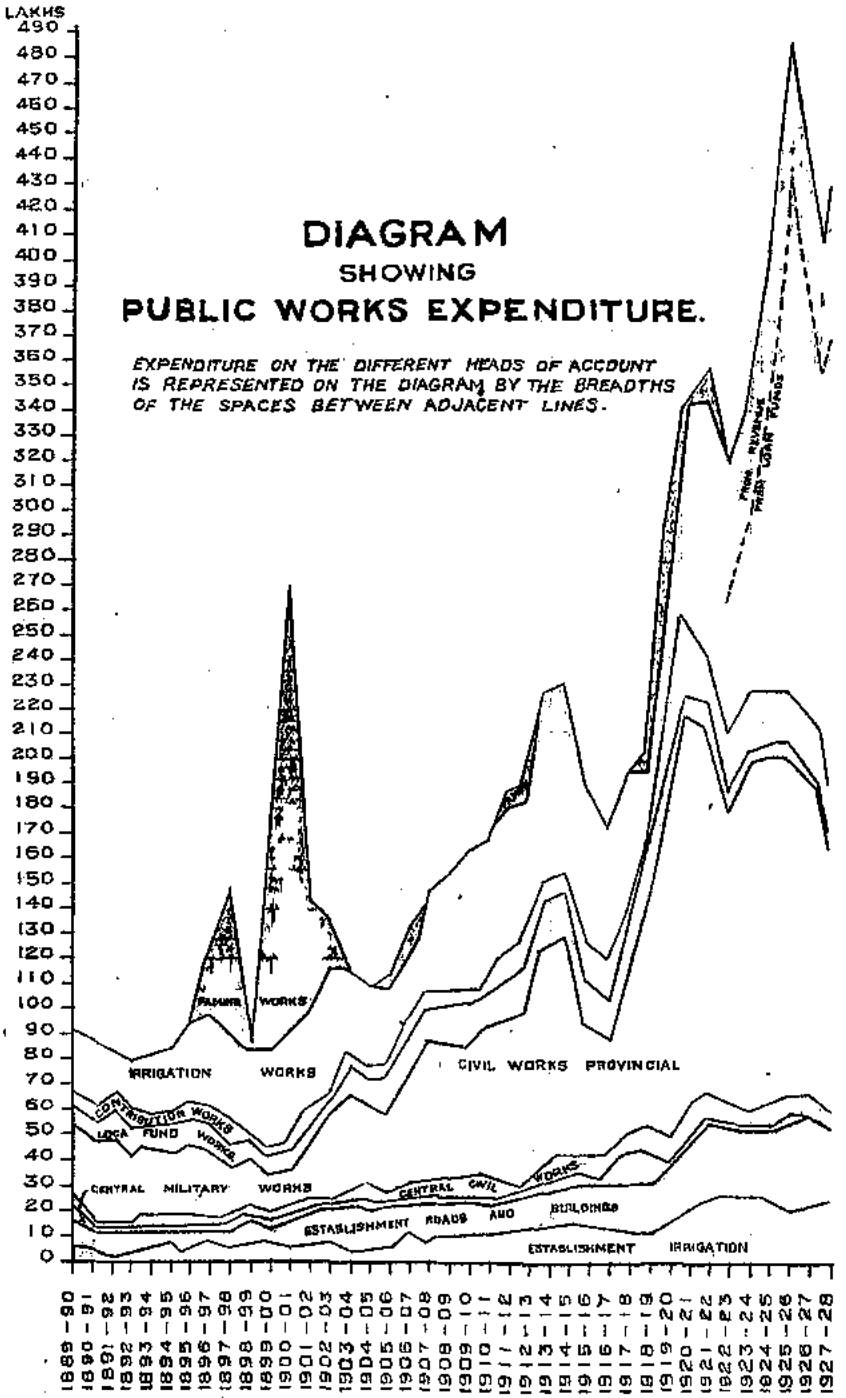
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DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE.
EXPENDITURE ON THE DIFFERENT HEADS OF ACCOUNT IS REPRESENTED ON THE DIAGRAM BY THE BREADTHS OF THE SPACES BETWEEN ADJACENT LINES.
PROTECTIVE WORKS
IRRIGATION WORKS
CIVIL WORKS PROVINCIAL
CONSERVATION WORKS
LOCAL FUND WORKS
CENTRAL MILITARY WORKS
CENTRAL CIVIL WORKS
ESTABLISHMENT
ROADS AND BUILDINGS
ESTABLISHMENT
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1926-27
1927-28

DIAGRAM

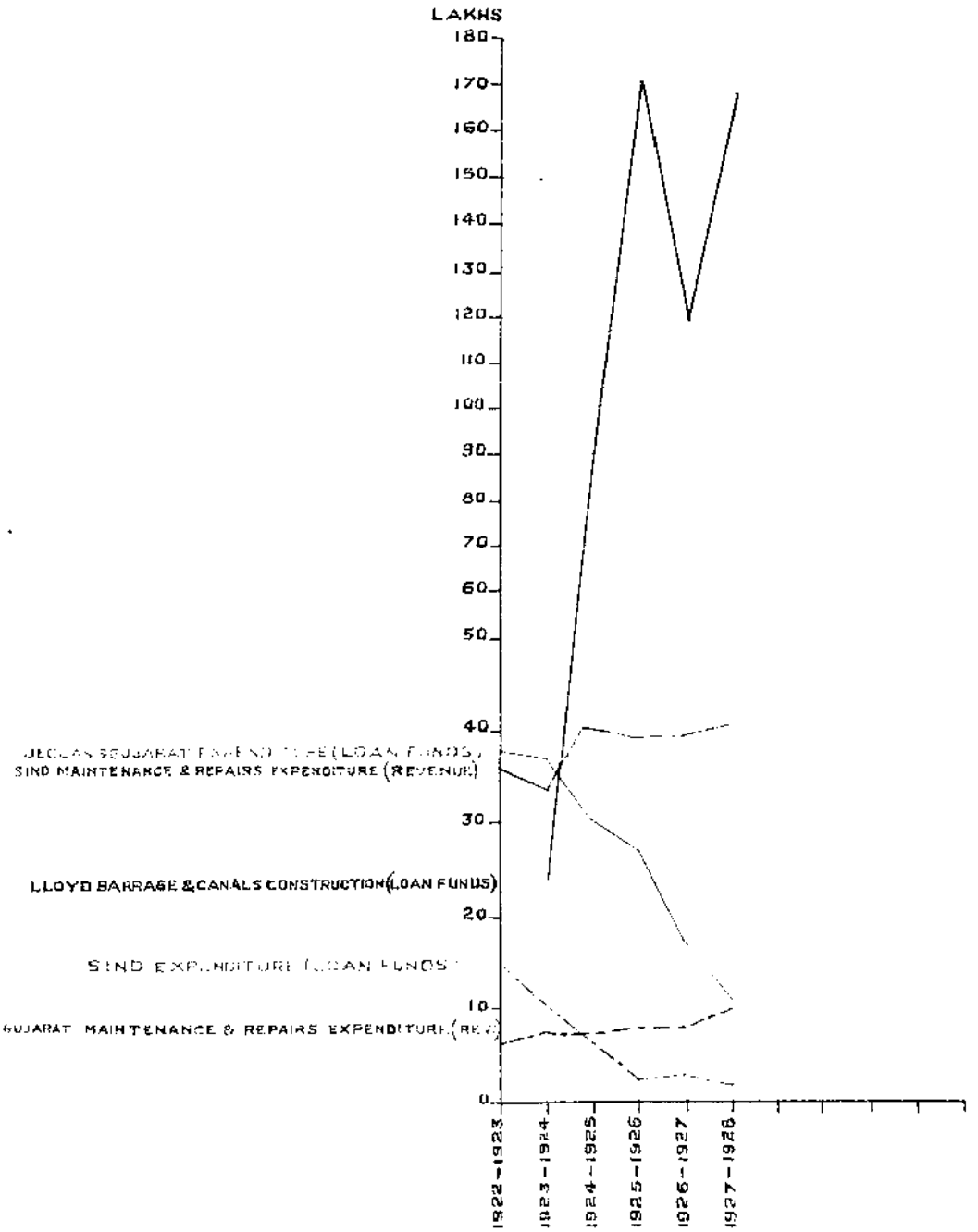
SHOWING

EXPENDITURE ON IRRIGATION WORKS

IN THE PUBLIC WORKS DEPARTMENT

FROM

LOAN FUNDS & REVENUE



L... Govt. Central Press Office, Poona. 1929.

Minute by the Honourable the Revenue Member on the subject of 'Electricity' and 'Railways' dealt with by the Roads and Buildings Branch of the Public Works Department, Bombay Presidency, during the year 1927-28.

Electricity.

During the year under report considerable extensions occurred in the provision of electric energy and new licenses were granted by Government with increasing frequency. The extension of such amenities means a highly satisfactory raising of the standard of living, comfort and health of the people of the Presidency.

Railways.

In the matter of Railways Government continued to do everything possible towards the extension of railway communications wherever such extension was deemed justifiable.

W. F. HUDSON,
Revenue Member.

Minute by the Honourable the Minister of Local Self-Government, giving a brief summary of the works carried out by the Roads and Buildings Branch of the Public Works Department, Bombay Presidency, during the year 1927-28.

During the year under report the Roads and Buildings Branch of the Public Works Department, Bombay Presidency, carried out works in connection with the Central and Provincial Services.

The works connected with the Central Services consisted of original works and repairs to Military buildings and Civil buildings under several heads. The expenditure amounted to about Rs. 10 lakhs.

The works connected with the Provincial Services consisted of original works and repairs to buildings under several heads and to communications. The expenditure under the heads 41 and 60, Civil Works, amounted to over Rs. 1½ crores. A brief description of the important buildings and communications that were completed or were in progress during the period is given below.

Judicial Buildings.

New District and Sub-Civil Courts, Poona.—(Estimated cost Rs. 20,01,443). This project consists of District Court (main building), Small Causes and First Class Courts and subsidiary buildings. The buildings were in progress during the period. The Small Causes Court and the First and Second Class Subordinate Courts were located in the Shanwar Wada, Poona City. But as these buildings had to be demolished as required by the Archæological Department the Courts were removed from this building and were temporarily accommodated in the Vishram Bag Wada until new buildings were constructed for all the Judicial

Courts in Poona. With the completion of these buildings the long-felt want of suitable accommodation for the Courts and the great inconvenience thereby felt will be removed permanently.

Judicial Courts, Karachi.—The amount of the estimate sanctioned up to date for the project is Rs. 30,02,000. A few items of finishing work are still in progress and are expected to be completed shortly.

Nasik Road Central Prison.—The estimated cost of this project so far sanctioned amounts to Rs. 26,87,400. This work is in progress. The prison is intended to accommodate 1,500 prisoners.

Medical Buildings.

New Operation Theatre at the Sassoon Hospital, Poona.—(Estimated cost Rs. 1,12,600). This work is an extension of the David Sassoon Hospital and provides accommodation for the X-Ray Department of the Hospital on the ground floor, with two operating theatres with the necessary sterilizing and instrument rooms on the 1st floor.

Out-patients' Department at the Sassoon Hospital, Poona.—(Estimated cost Rs. 1,73,131). This is a single-storey detached building containing all the necessary accommodation required for an out-patients' department. The building is completed but has not been occupied, as a number of extra sinks and additional electric fittings have yet to be provided.

Laboratories at the B. J. Medical School, Poona.—(Estimated cost Rs. 1,33,770). This is a two-storey building. The Chemistry, Physics and Biology Laboratories, with two rooms for the two lecturers, are on the ground floor, while the upper floor provides accommodation for the preparation rooms for Pathological and Physiological sections and a large Laboratory. The whole building is to be fitted up in the most up-to-date manner.

Two separate wards for Parsee Female Patients at the Central Mental Hospital at Yeravda, Poona.—(Estimated cost Rs. 1,73,270). One of these wards is for acute and the other for chronic cases and there is a detached dining hall for both. The work of the acute block is nearly completed and that of the chronic block is in progress.

General Administration.

New Council Hall, Bombay.—This is a hall with galleries all round designed by the Consulting Architect to Government. It is semi-octagonal in plan, the main Council chamber being of horse-shoe shape. The work was started in January 1928. It provides accommodation for 146 members of Council, with necessary lobbies, ante-rooms and President's Chamber. On the first floor galleries are provided for His Excellency the Governor, the President, distinguished visitors, the public and the press. The building is provided with a plant and the necessary air-ducts for cooling and dehumidifying the air.

Miscellaneous.

Development of the Artillery Maidan at Karachi.—This work is estimated to cost Rs. 3,00,886. The work of constructing storm-water channels, roads, road-bridges, earth filling and tree plantation is in progress.

Communications.

Bridge over the river Tapti at Gidhad on the Bombay-Agra Road in the West Khandesh Division.—Estimated cost Rs. 15,59,449).—The work is in progress. When the bridge is constructed the great inconvenience caused to the traffic on the Bombay-Agra Road throughout the year will be removed. Twenty-eight openings of 40′ span each are provided and the width of the bridge is 26′, so as to allow for a single line of light railway being hereafter carried over it if necessary.

Bridge on the River Shedi at Dakor.—The work of reconstructing the abutments of the bridge, providing new footpaths and training the sides of the river Shedi at Dakor in the Kaira and Panch Mahals Division was in progress. The town of Dakor is a place of pilgrimage and large crowds of people visit it from all over India, especially at times of full moon.

Improvements to the road from Nasik to Nasik Road Railway Station.—(Estimated cost Rs. 3,11,000). It is proposed to asphalt a central width of 16′ of this road and the work is in progress.

Communications in the Ratnagiri and part of Kolaba Collectorates.—To remove the long-felt want of communications a programme of improvements to communications in the Ratnagiri and Kolaba Districts has been approved at a cost of about Rs. 40,00,000. The following are some of the more important items of the project which are in progress.

Bridge over the Saptalingi river on the Hatkhamba-Poladpur Road.—(Estimated cost Rs. 98,437).

Bridge over the Jagbudi river on the Hatkhamba-Poladpur Road.—(Estimated cost Rs. 1,32,322).

Bridge over the Savitri river on the Dharamtar-Mahableshwar Road.—(Estimated cost Rs. 2,39,881).

Bridge over the Kajvi river near Anjanari on the Pali-Phonda Road.—(Estimated cost Rs. 1,65,802).

The most noteworthy event of the year was the havoc caused by the unprecedented rains and heavy floods in Gujarat in July 1927—most of the roads and buildings were very badly damaged and tanks, bunds, etc., breached, with the result that only by an effective organization and by working day and night were road communications restored. This was effected in a remarkably short time and communication by road was maintained for nearly a month by means of lorries and buses at a time when the railway between Nadiad and Ahmedabad was breached and completely out of action. A special grant of over five lakhs of rupees was sanctioned by Government for making good the damage in question. The repairs and reconstruction works were pushed on rapidly and most of them were carried out during the year under report.

Sanitary Schemes.

It is gratifying to note the increasing readiness of Municipalities throughout the Presidency, including Sind, to undertake the construction and improvement of water-supply and drainage works and to come forward with financial proposals to meet the cost. Even the larger local bodies, which have hitherto generally been in the habit of carrying out such works themselves, are now showing themselves increasingly desirous of securing the advice and assistance of the Public Health Branch of the Public Works Department.

Road Development in Sind.

Mr. H. B. Parikh, L.C.E., M.I.E. (Ind.), I.S.E., was placed on special duty for a few months during the year to investigate the problem of improvement of existing roads in Sind and to report on the new roads required to facilitate transport after the advent of the Lloyd Barrage and Canals.

H. D. DESAI,
Minister of Local Self-Government.

PUBLIC WORKS DEPARTMENT.

BOMBAY PRESIDENCY.

ADMINISTRATION REPORT WITH A DETAILED REVIEW OF THE CIVIL AND MILITARY WORKS FOR 1927-28.

I—DIRECTION.

1. During the year under report Mr. R. T. Harrison continued as Chief Engineer for Irrigation and Secretary to Government and Mr. D. R. H. Browne, O.B.E., A.K.C., as officiating Chief Engineer, Roads and Buildings and Joint Secretary to Government.

2. Mr. Harrison proceeded on short leave for one month in October 1927 and during his absence Mr. Browne acted as Chief Engineer and Secretary to Government, while Mr. T. A. Andrew, Deputy Secretary to Government, acted as Chief Engineer for Irrigation and Joint Secretary to Government in addition to his own duties.

3. In consequence of the retirement of Mr. K. S. Framji, C.I.E. and Mr. H. O. B. Shoubridge, Chief Engineer, Mr. V. M. Griffiths and Mr. C. S. C. Harrison, C.I.E., were promoted to the rank of Chief Engineer, permanent, with effect from 2nd December 1926 and 21st March 1927 respectively. Mr. J. B. S. Thubron, C.I.E., Superintending Engineer, was also promoted to the acting rank of Chief Engineer with effect from 23rd December 1926, *pari passu* with his junior Mr. D. R. H. Browne, and Messrs. C. B. Pooley, C.I.E., and C. M. Lane were made Superintending Engineers, permanent, in the vacancies caused by the promotion of Messrs. Griffiths and Harrison.

II—ADMINISTRATIVE MEASURES.

Establishment.

4. Two appointments were made to the European-recruited branch of the Indian Service of Engineers (Irrigation) by the Secretary of State and in accordance with the guarantee given to the College of Engineering, Poona, and the N. E. D. Civil Engineering College, Karachi, two "students" were also selected for training for the India-recruited branch of the same service.

5. Thirteen Upper Subordinates were promoted as usual to the Bombay Service of Engineers during the year and four Engineering graduates from the College of Engineering, Poona, and the N. E. D. Civil Engineering College, Karachi, were also taken up as "candidates" for that service.

III—TERRITORIAL CHANGES.

6. With a view to taking full advantage of the valuable research work so far done in the Special Irrigation Division, in the direction of solving the highly scientific problems connected with irrigation and agriculture and with the special conditions which obtain in the Deccan Canal tracts, and to relieving the Deccan Irrigation Circle, the work of which could no longer be handled by one officer, a new Circle of Superintendence, called the Irrigation Development and Research Circle, with its headquarters at Poona, was created with the sanction of the Government of India for a period of five years with effect from 1st December 1927. A new Division called the Manchar Drainage Division was formed for a period of two years in the first instance with effect from 1st August 1927 on the Lloyd Barrage and Canals Construction Scheme.

7. The continuance of the following Divisions was also sanctioned by the Government of India for the periods and from the dates mentioned against each :—

	Period Yrs.	Mts.	The date from which sanctioned.
Poona Drainage Construction Division.	2	0	1st March 1927.
Persian Gulf Division	2	0	1st April 1927.

8. In consequence of the scheme for retrenchment, the Bijapur Division of the Southern Circle was closed with effect from the 1st May 1927. Certain Sub-divisions in Sind were also amalgamated with others adjoining them.

9. The following Sub-divisions were continued for the period mentioned against each :—

Karachi Canals Division.

	From	To
Special Project Sub-division ..	1st July 1927	31st August 1927.

Fuleli Canals Division.

Project Sub-division	1st December 1927.	31st May 1928.

10. The formation of a new Sub-division called "The Baramati Experimental Salt Area Sub-division" with headquarters at Baramati in the Special Irrigation Division was sanctioned from 9th March 1928.

11. The headquarters of the Sub-divisional Officer, Dalor, in the Northern Division, Jamrao Canal, was changed from Tillashah to Dalor with effect from 5th May 1927.

The headquarters of the amalgamated Guni-Katiar Sub-division of the Fuleli Canals Division was fixed at Tando Mahomed Khan with effect from 1st May 1927.

The headquarters of the Tando Allahyar Sub-division of the Hyderabad Canals Division was changed from Tando Allahyar to Hyderabad with effect from 1st May 1927.

The Hangal and Gokak Canal Sub-divisions of the Dharwar Irrigation Division were renamed as the Haveri Irrigation and Belgaum Irrigation Sub-Divisions, respectively, and their headquarters were changed from Hangal to Haveri and from Dhupdal to Belgaum, respectively, with effect from 14th January 1928.

12. With a view to relieving the Executive Engineer, Mutha Canals Division, of a portion of his work, in order to enable him to devote the requisite amount of time for preparing the Mutha Right Bank Canal Remodelling Project, the Padegaon and Nimblak Sub-divisions of the Nira Right Bank Canal in that Division were transferred from 21st October 1927 to the Lake Whiting Division for such time as the Lake Whiting Division might continue to be in existence.

13. Under the Lloyd Barrage and Canals Construction scheme 83 Sub-divisions were created up to the end of March 1928.

14. The continuance of the Nasik Road Central Prison Sub-division was sanctioned.

The abolition of the Peint Sub-division in the Nasik Division and the distribution of its work between Nasik, Malegaon and Yeola Sub-divisions was sanctioned with effect from 1st August 1927. The headquarters of the Yeola Sub-division were, however, changed to Chandor and the sub-division was named Chandor Sub-division.

The headquarters of the Dapoli Sub-division in the Ratnagiri Division were changed from Dapoli to Chiplun.

Miscellaneous.

15. In order to report upon the problem of roads in Sind, a temporary post of Executive Engineer was created under the Chief Engineer, Lloyd Barrage and Canals Construction, for a few months during the year and Mr. H. B. Parikh was appointed to it. Further, for the purpose of investigating certain questions connected with irrigation in the Deccan Canals, Mr. C. H. Bristow, I.C.S., was appointed on special duty.

16. As a measure of economy, the rate of Sub-divisional allowance granted to the Subordinates in charge of Sub-divisions was reduced from Rs. 75 per mensem to Rs. 50 per mensem with effect from 1st March 1927.

17. Members of the Bombay Service of Engineers serving in the Irrigation branch in Sind, whether appointed direct or promoted thereto were made eligible for Sind allowance at the rate of Rs. 50 per mensem with effect from 1st April 1926, provided that they were not natives of Sind or the Punjab.

18. In consequence of the formation of the Bombay Subordinate Service of Engineers, certain modifications were made in the existing guarantee for direct appointments to that service from the Engineering Colleges at Poona and Karachi.

IV—DETAILED REVIEW.

A—Civil Buildings.

During the period under review the Roads and Buildings Branch of the Public Works Department of the Presidency executed works involving a total expenditure of Rs. 1,81,81,234. The more important details are given under the various heads below :—

Central Services.

		Rs.
Customs—		
On works	..	75,109
On repairs	..	44,380
Total	..	1,19,489

Quarters for the Preventive Officers of the Bombay Custom Department at Matunga were in progress.

Salt—		
On works	..	—29,791
On repairs	..	1,14,904
Total	..	85,113

Several works in connection with the Salt Works at Kharaghoda, Ahmedabad Division, were carried out.

Opium—Under this head Rs. 130 were spent on repairs.

General Administration—		
On works	..	29,195
On repairs	..	6,276
Total	..	35,471
Administration of Justice—		
On works	..	3,857
On repairs	..	336
Total	..	4,193
Jails and Convicts Settlements—		
On works	..	4,611
On repairs	..	3,933
Total	..	8,544
Police—		
On works	..	1,01,595
On repairs	..	9,183
Total	..	1,10,778

Ports and Pilotage—		Rs.
On works		26,722
On repairs		744
	Total ..	27,466
Ecclesiastical—		
On works		18,197
On repairs		48,794
	Total ..	66,991
Political—		
On works		45,681
On repairs		68,703
	Total ..	1,14,384
Scientific Department, Meteorological—		
On works		25,628
On repairs		4,368
	Total ..	29,996
Education—		
On works		5,876
On repairs		....
	Total ..	5,876
Medical—		
On works		17,152
On repairs		1,750
	Total ..	18,902
Public Health—		
On works		12,580
On repairs		7,508
	Total ..	20,088
Aviation—		
On works		471
On repairs		423
	Total ..	894
Currency Buildings—		
On works		5,401
On repairs		3,523
	Total ..	8,924

		Rs.
Mint—		
On works		2,306
On repairs		7,534
	Total ..	9,840
Civil Works—		
On works		10,969
On repairs		1,585
	Total ..	12,554
Miscellaneous Departments—		
On works		103
On repairs		....
	Total ..	103
Miscellaneous—		
On works		....
On repairs		2,493
	Total ..	2,493
**Post Offices*—		
On works		3,31,912
On repairs		31,388
	Total ..	3,63,300

New Post and Telegraph Office at Kalbadevi, Bombay, was nearly completed. New building for the Post Office and quarters for the Postmaster at Dadar were completed and handed over to the Postal authorities.

A Telephone Exchange Room at the Post and Telegraph Office at Mahableshwar was constructed and a few other minor works were carried out.

**Telegraphs*—		
On works		2,07,413
On repairs		27,073
	Total ..	2,34,486
**Archæological*—		
On works		17,060
On repairs		47,713
	Total ..	64,773

* From the year 1921-22 the expenditure on Post and Telegraph Buildings has been transferred to the Accountant General, Post and Telegraphs, and that on Archæological works to the Accountant General, Central Revenues.

Military Works—		Rs.
On works		680
On repairs		56,954
	Total ..	57,634

PROVINCIAL SERVICES.

Land Revenue—		
On works		2,360
On repairs		4,785
	Total ..	7,145

Excise—		
On works		40,009
On repairs		36,020
	Total ..	76,029

Excise Inspector's bungalow at Pandharpur was in progress.

Forests—		
On works		11,943
On repairs		12,067
	Total ..	24,010

Registration—		
On works		479
On repairs		289
	Total ..	768

General Administration—

(1) RESIDENCES FOR HEADS OF PROVINCES.

On works		1,18,180
On repairs		2,48,677
	Total ..	3,66,857

Breakwaters and stone pitched berms were constructed along the Eastern foreshore of Government House, Malabar Point, Bombay.

(2) PROVINCIAL LEGISLATIVE COUNCILS.

On works		18,415
On repairs		11,842
	Total ..	30,257

New Council Hall, Bombay, was in progress.

(3) Secretariat and Headquarters Establishment including Local Fund Audit Establishment.

	Rs.
On works	1,036
On repairs	36,087
Total ..	37,123

(4) Commissioners and District Officers.

On works	2,15,829
On repairs	2,66,338
Total ..	4,82,167

Additions and alterations to the Mamlatdar's Kacheri at Viramgam were carried out.

Administration of Justice—

On works	5,66,910
On repairs	1,19,965
Total ..	6,86,875

District and Sessions Courts, Small Causes Courts, First and Second Class Subordinate Courts at Poona were in progress. Judicial Courts at Karachi were in progress.

Jails and Convict Settlements—

On works	7,01,404
On repairs	48,915
Total ..	7,50,319

A New Jail for Female Prisoners at Yeravda was completed.

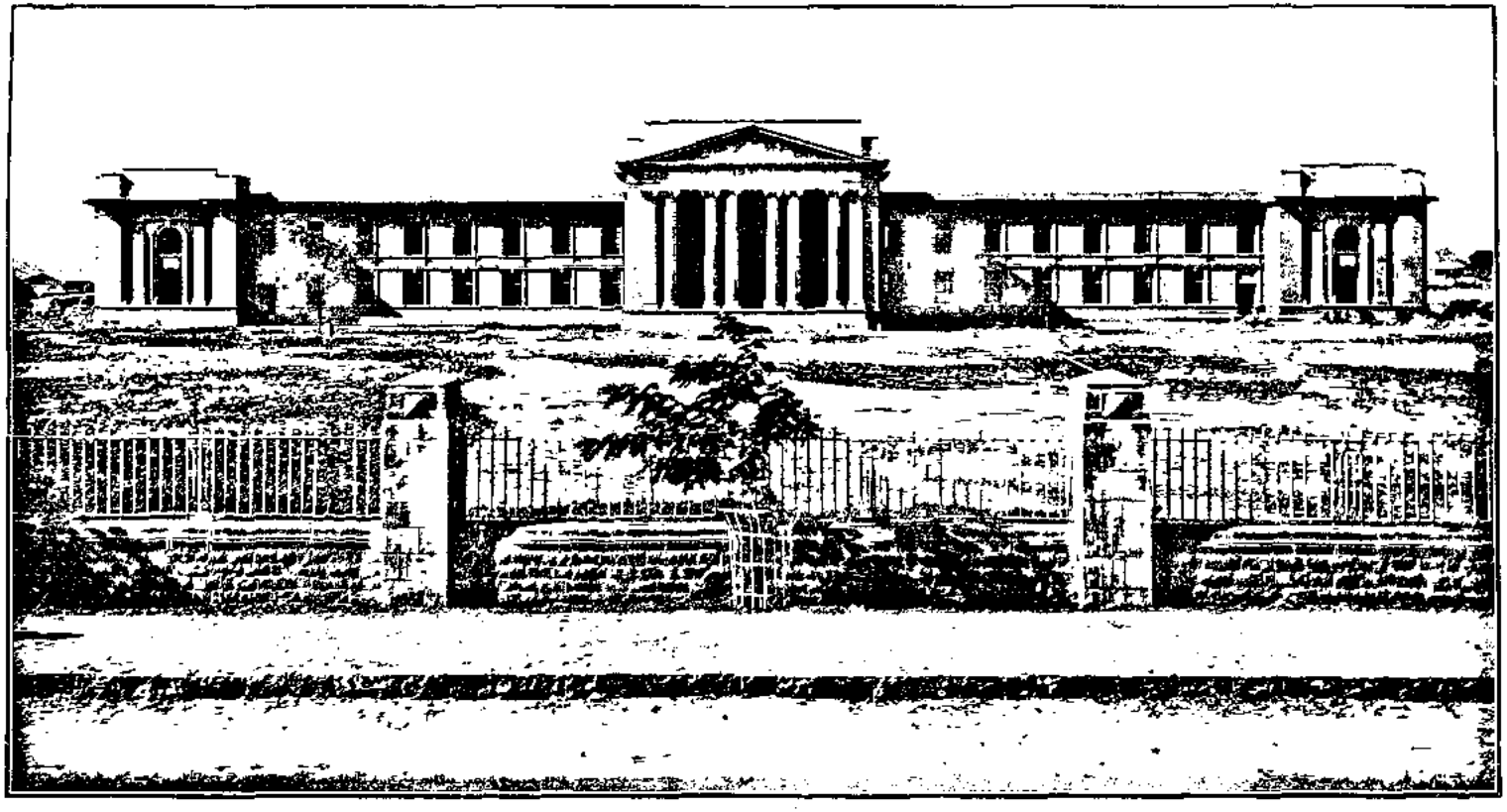
Quarters for the Medical Officer in the Central Prison at Belgaum were completed.

A number of works in connection with the Nasik Road Central Prison were in progress. Extension of the District Prison at Karachi was in progress.

Police—

On works	3,10,730
On repairs	3,83,297
Total ..	6,94,027

The existing block of 120 rooms in the compound of the Headquarters Police Office, Bombay, was converted into good sanitary quarters for 60 men.



G. P. Z. P. 1930

DISTRICT COURT, POONA.

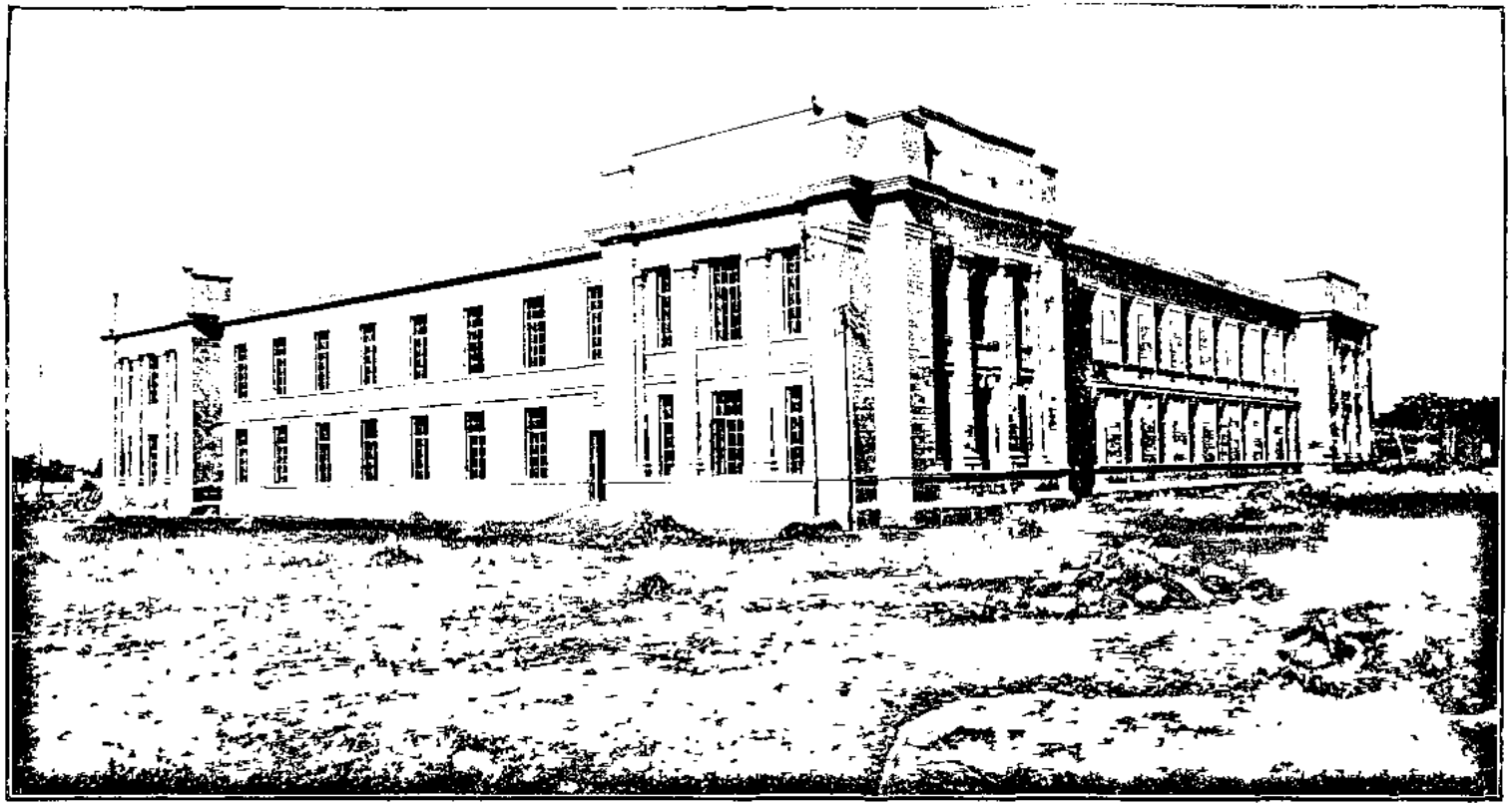
North View.

Date of commencement 4th March 1925.

Estimated cost Rs. 9,24,950.

Expenditure to end of 1927-28 Rs. 8,70,823.

Work in progress.



G. P. Z. P. 1933.

FIRST CLASS COURT, POONA.

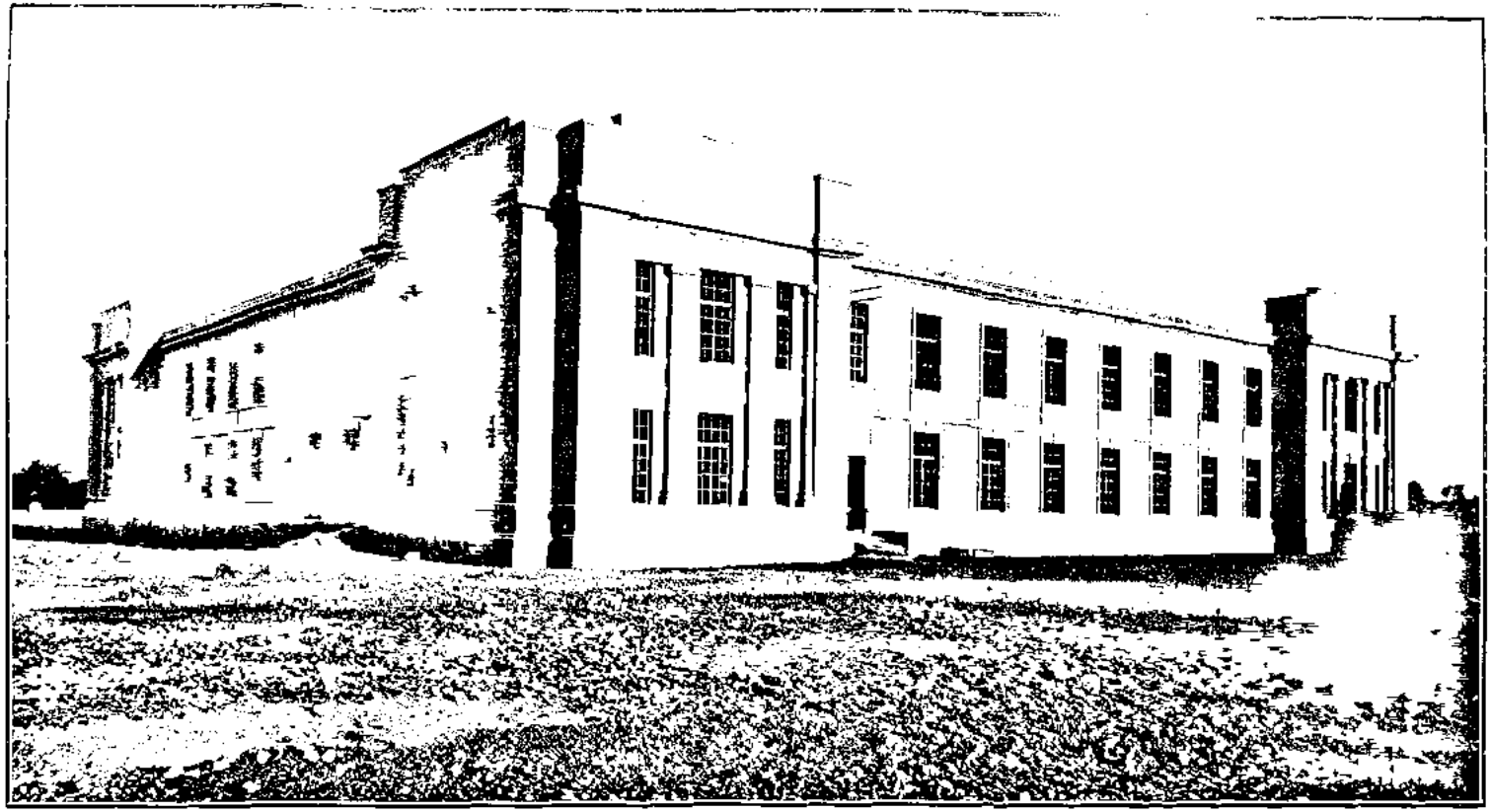
North-east view.

Date of commencement 14th September 1925.

Estimated cost Rs. 3,08,463.

Expenditure to end of 1927-28 Rs. 2,68,692

Work in progress.



G P Z P 933

SMALL CAUSES COURT, POONA

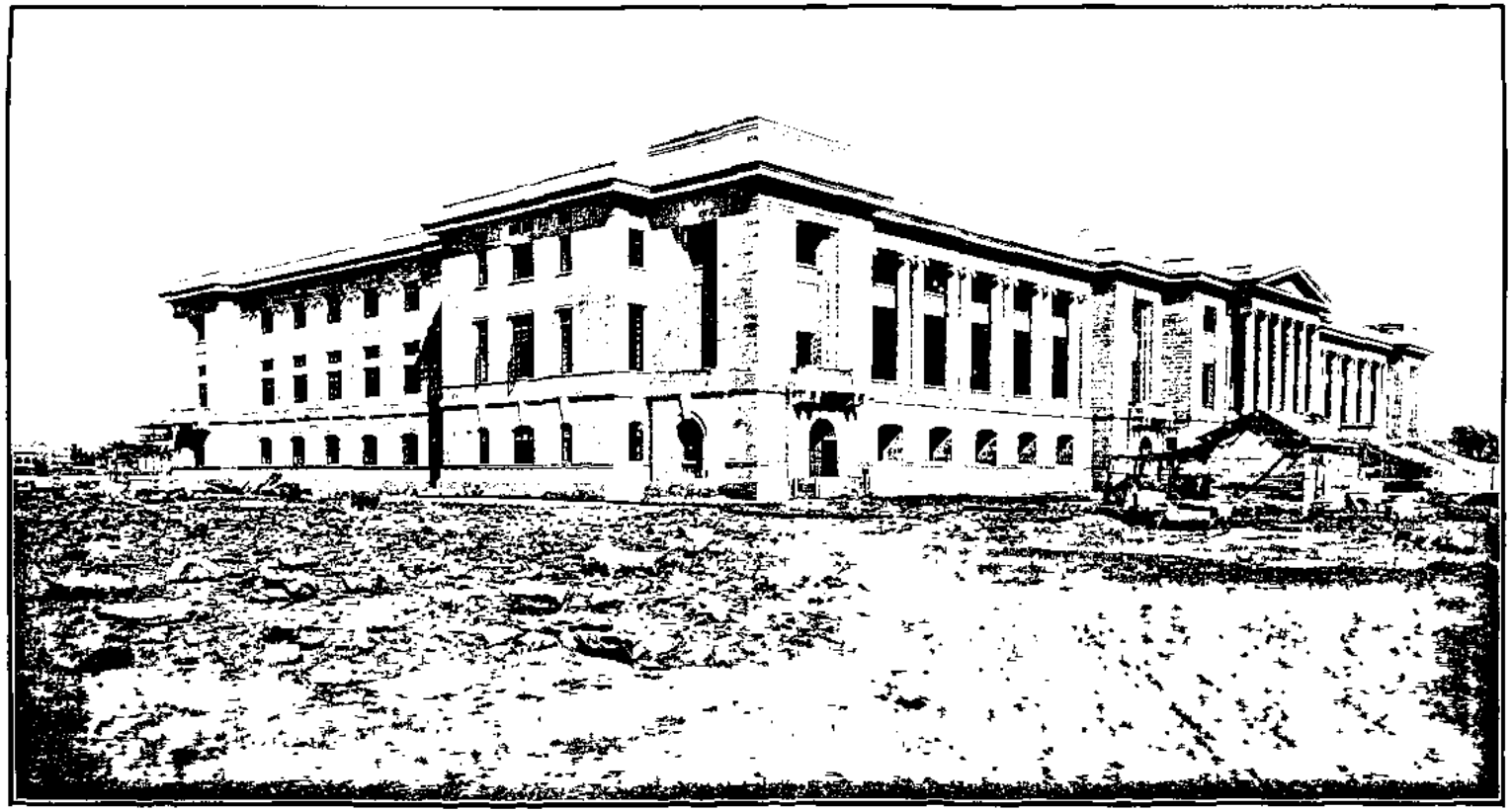
North-West view.

Date of commencement 14th September 1925.

Estimated cost Rs. 3,41,671.

Expenditure to end of 1927-28 Rs. 2,99,303.

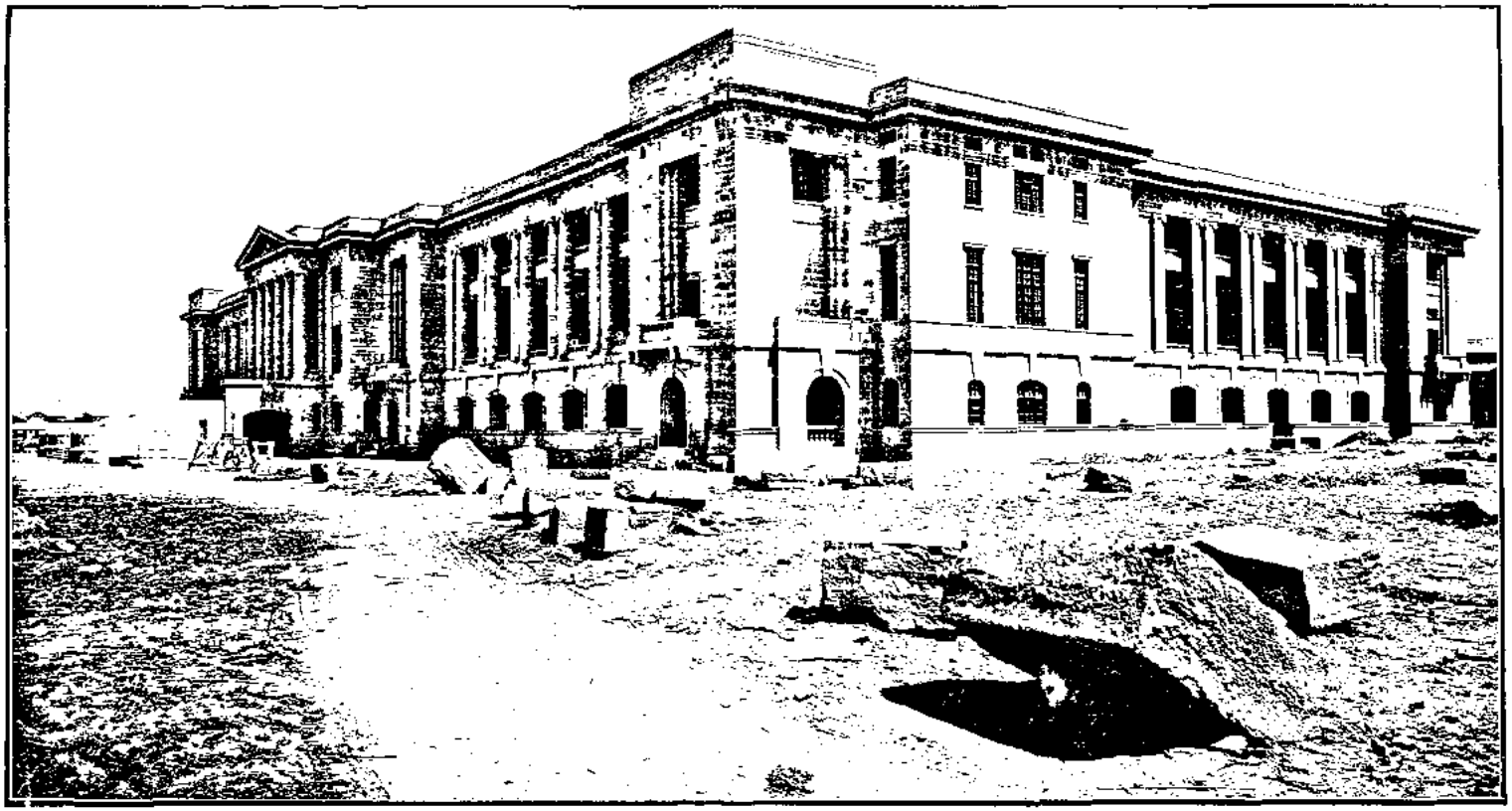
Work in progress.



G. P. Z. P. 1930

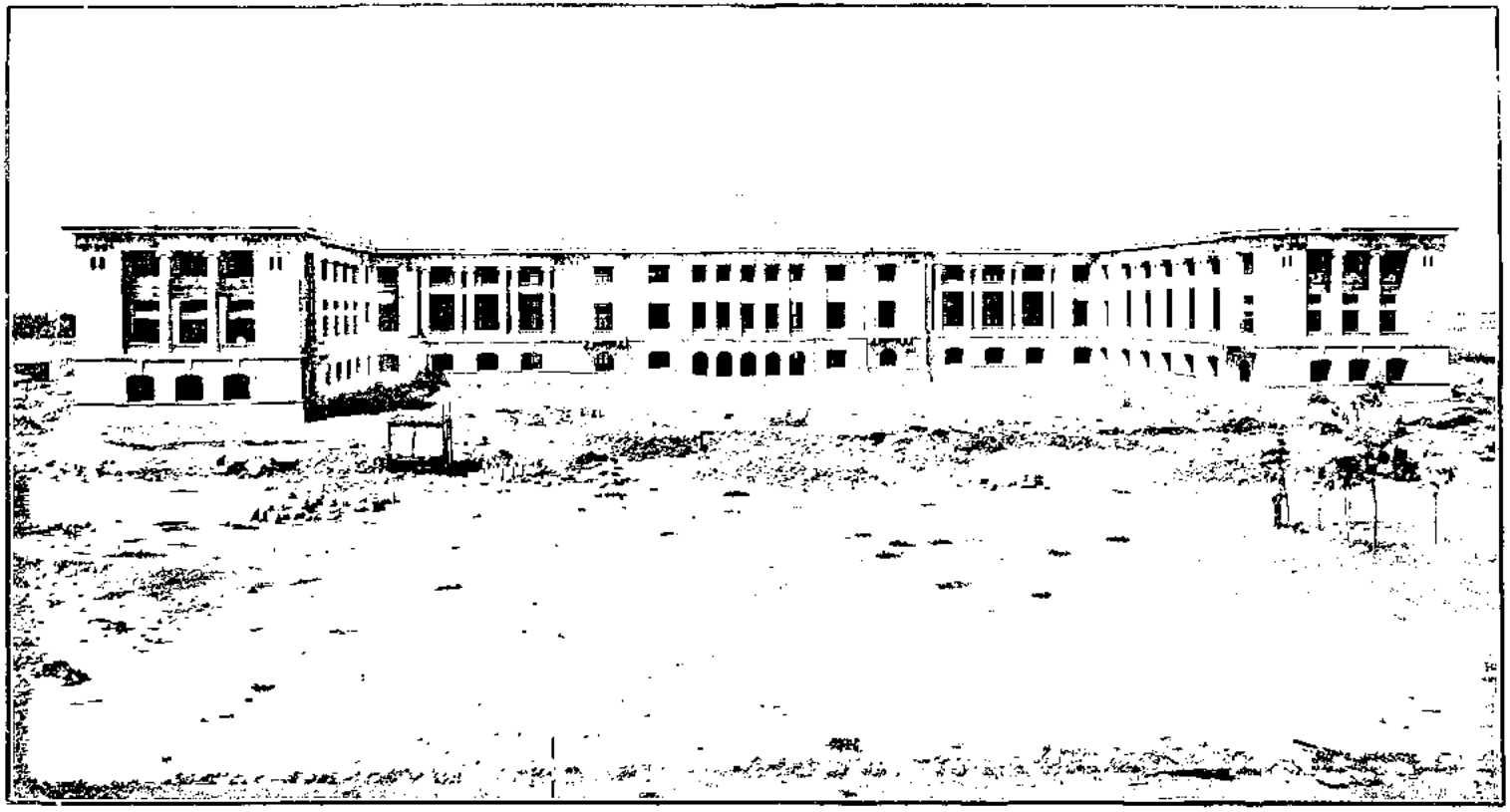
JUDICIAL COURTS, KARACHI
Side (North) View.

Cost as at present estimated Rs. 30.05,378.
Expenditure to end of 1927-28 Rs. 24,83,312.
Work in progress.



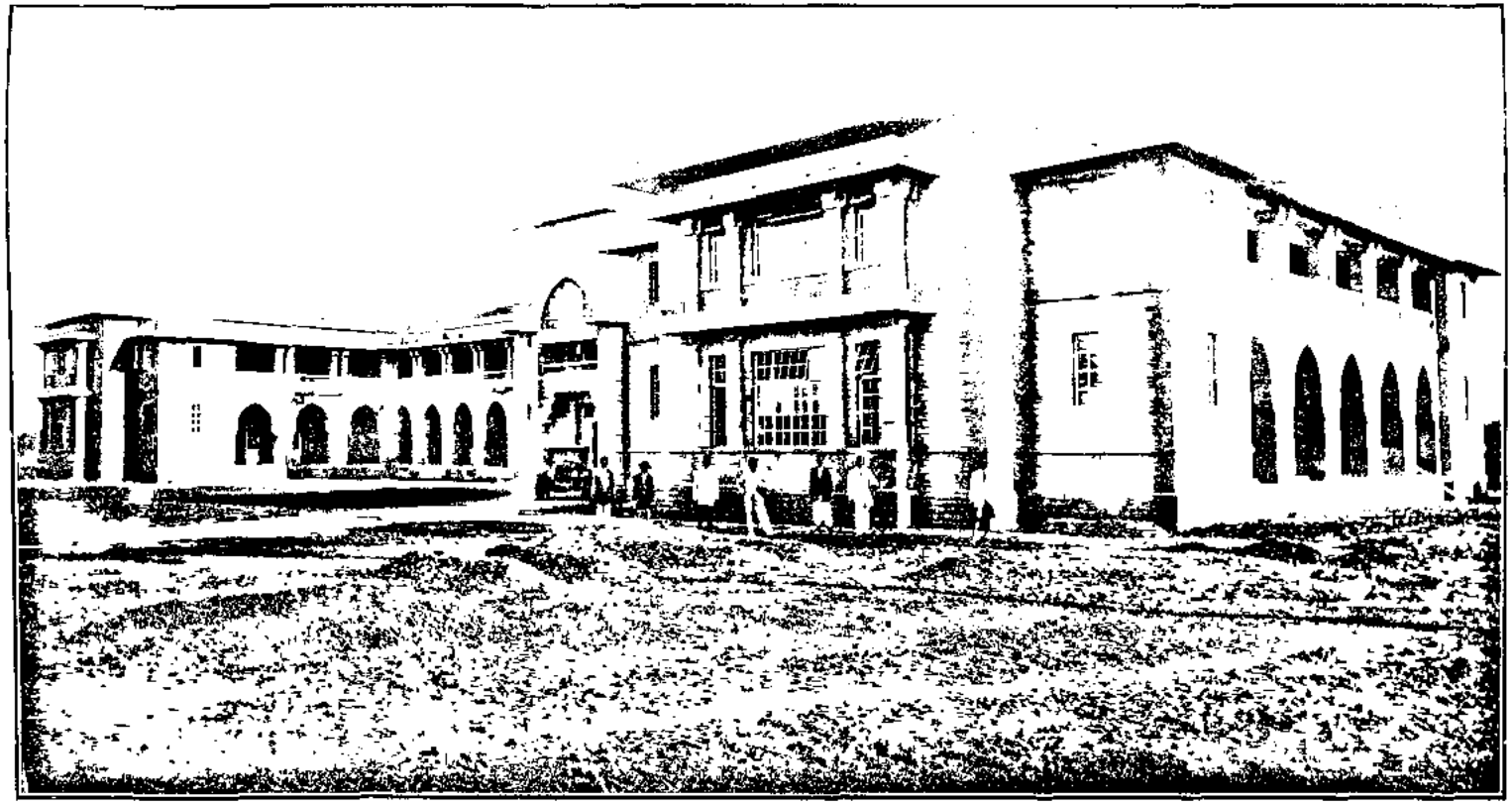
JUDICIAL COURTS, KARACHI
Side (South) View

G. P. Z. P. 1936



JUDICIAL COURTS, KARACHI
Rear (East) View.

G. P. Z. P. 1936



G. P. Z. P. 1931

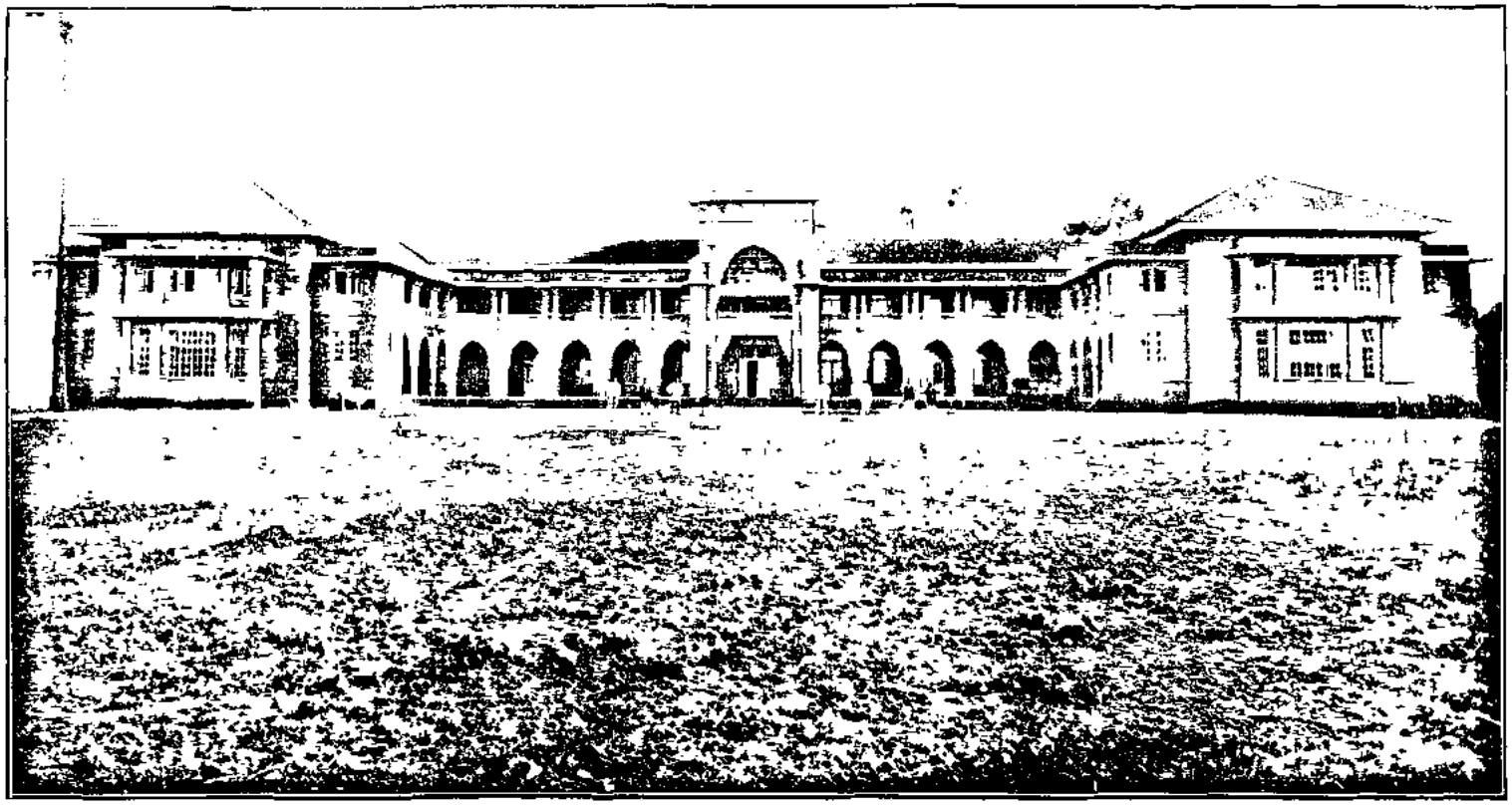
ISMAIL COLLEGE, ANDHERI.

South-east view of main building. 22-4-28.

Estimated cost Rs. 4,67,854.

Expenditure to end of 1927-28 Rs. 2,42,348.

Work in progress.



G. P. Z. P. 1930

ISMAIL COLLEGE, ANDHERI
South view of main building.

Additions and alterations to the residence of the Assistant Superintendent of Police at Kaira and to the Sergeants' quarters in the Gaikwar's Haveli at Ahmedabad were carried out.

Police Accommodation Scheme II, Part II at Naigaum, Bombay, for housing Armed Police and Recruits was nearly completed.

Head Quarters Police Lines at Nasik were completed.

Railway Police Lines at Gadag were in progress.

Police Lines at Kambar and Ranchore Police Lines at Karachi were completed.

		Rs.
Scientific Departments—Museums—		
On repairs	..	573
Educational : University—		
On works		2,39,318*
On repairs		68,221
	Total ..	3,07,539

The Ismail College at Andheri was in progress.

Additions and alterations to the Engineering College, Poona, were in progress.

Secondary—		
On works		35,436
On repairs		30,312
	Total ..	65,748
Primary—		
On works		118
On repairs		4,886
	Total ..	5,004
Special—		
On works		4,695
On repairs		17,154
	Total ..	21,849
Miscellaneous—		
On works		7,514
On repairs		23,523
	Total ..	31,037
Medical—		
On works		8,23,846†
On repairs		2,17,231
	Total ..	10,41,077

* Includes Rs. 1,75,913, outlay from Deposit contributions.
† Includes Rs. 2,70,112 outlay from Deposit contributions.

The Byramjee Jeejeebhoy Hospital for Children in the compound of Sir J. J. Hospital, Bombay, was in progress.

Blocks of servants quarters' and blocks of sweepers' quarters in connection with Sir J. J. Hospital, Bombay, were completed.

Several works in connection with the new buildings for Pathology and Bacteriology, Grant Medical College, Bombay, were in progress. The Ellappa Balaram Pavilion, Sir J. J. Hospital, Bombay, was in progress. Office and store rooms for the steward in the Civil Hospital at Ahmedabad were in progress.

A New Laboratory building for the B. J. Medical School, Poona, was nearly completed. A New Operation Theatre and an Out-Patients' Department at the Sassoon Hospital, Poona, were nearly completed.

Civil Works—	Rs.
On works	1,03,385
On repairs	2,84,469
Total ..	3,87,854

Repairs and additions and alterations were carried out to the Eastern portion of the old jail at Umerkhadi, Bombay, to be placed at the disposal of the Bombay Childrens' Aid Society.

Famine—

Under this head Rs. 47,634 were spent.

The following scarcity works were started to alleviate distress in the Belgaum and Dharwar Districts :—

Improvements to Nipani-Mahalingpur Road, Gotur-Tasgaon Road and Kolhar-Talikot Road.	Belgaum District.
Causeway over the Benni Nalla on the Hubli-Sholapur Road.	Dharwar District.
Improvements to the Pala-Badami Road and Hubli-Sholapur Road.	

Public Health—

On works	40,372
On repairs	42,483
Total ..	82,855

Providing masonry wall and barbed wire fencing around the compound of the Haffkine Institute, Parel, Bombay, and quarters for the officer in charge of the Anti-rabic section were completed.

Agriculture—

On works	34,278
On repairs	33,805
Total ..	68,083

Several works in connection with the Experimental Farm Buildings at Sakrand were carried out.

Industries—	Rs.
On works	1,560
Stationery and Printing—	
On works	2,06,337
On repairs	7,005
Total ..	2,13,342

New Government Central Press building at the Charni Road Garden, Bombay, was completed.

Miscellaneous Departments—	
On works	34,739
On repairs	36,705
Total ..	71,444

Public buildings on the Artillery Maidan at Karachi were in progress.

Bombay Development.

Under this head Rs. 3,337 were spent on repairs.

Coast Erosion and Protection.

The Committee on Encroachments by sea on the Western Coast of the Presidency held their (11th) last meeting on the 27th September 1927 and submitted their report on the 23rd December 1927. The report is under the consideration of Government.

Central Workshops, Dapuri.

During the year under report the Workshops were run at loss. This fact is mainly due to the workshop not receiving sufficient work. The gross turn-over was about Rs. 1¾ lakhs as against about Rs. 2 lakhs during the previous year.

Public Health Works.

Designs and specifications were prepared for pumping plants for the Poona Drainage Improvement Scheme and also for the Grit Elevators in connection with the proposed Balancing Tanks in that scheme. A large number of Public Health Works involving pumping plants were under execution. Pumping plants were erected at Matheran and Kapadwanj and that for Pandharpur was brought to the site. Orders were received from several private firms, the District Local Board, Poona, the Cantonment Board, Poona, and the Dharwar Municipal Borough. The plants at Pandharpur, Bijapur, Sholapur, Hubli, Dharwar, Karad and Matheran were inspected during the year.

A number of special pipe castings were made at Dapuri for the Sanitary Circle, among which were some flanged specials for Poona Water Works.

Forty-six steam road-rollers were inspected by the Mechanical Assistant, and the necessary advice regarding their repairs was given and repairs to several steam-road rollers were carried out.

Twenty-nine apprentices and 5 graduates were undertraining.

B.—Architectural.

Designs and sketch plans were prepared for the following works :—

Preventive officers' quarters at Matunga, Bombay, Post Office at Kalbadevi and Dadar, Bombay, Court buildings at Sholapur, Judicial Buildings at Jalgaon, Courts at Dharwar and High Court at Karachi.

In regard to public or institutional buildings, designs were prepared for the Sir Currimbhoy Ebrahim Memorial Dental College and Hospital, the Rao Bahadur Ellappa Balaram Pavilion, quarters for 99 nurses, C. J. Hospital, and extension to the Bai Motlibai Hospital in connection with the J. J. Hospital reconstruction scheme, also for new buildings for Pathology at the Grant Medical College, Bombay, and a Chemistry block and new Hostel for students at the Agricultural College, Poona.

C—Electrical.

(1) *Electric Licenses.*

Electricity has continued to attract the attention of the public in an increasing degree, and is coming to be looked upon as a necessity and not as a luxury. Two more licenses were granted in the year under report for the supply of electricity to Thana and Ahmedabad (in bulk). Several more applications are under the consideration of Government.

(2) *Electrical Works—*

	Central.	Provincial.
	Rs.	Rs.
On works	5,910	2,40,587
On repairs	9,246	2,65,659
Total ..	15,156	5,06,246

The following important electrical works were either in progress or completed during the year :—

Electric installations in the Civil Hospital and Medical School, Hyderabad, Agricultural Farm Buildings at Sakrand and Nasik Road Central Prison.

D—Communications.

Expenditure was incurred as follows —	Rs.
On works	17,55,194
On repairs	37,92,671*
Total ..	55,47,865

* Includes Rs. 87,866 outlay from Deposit contributions.

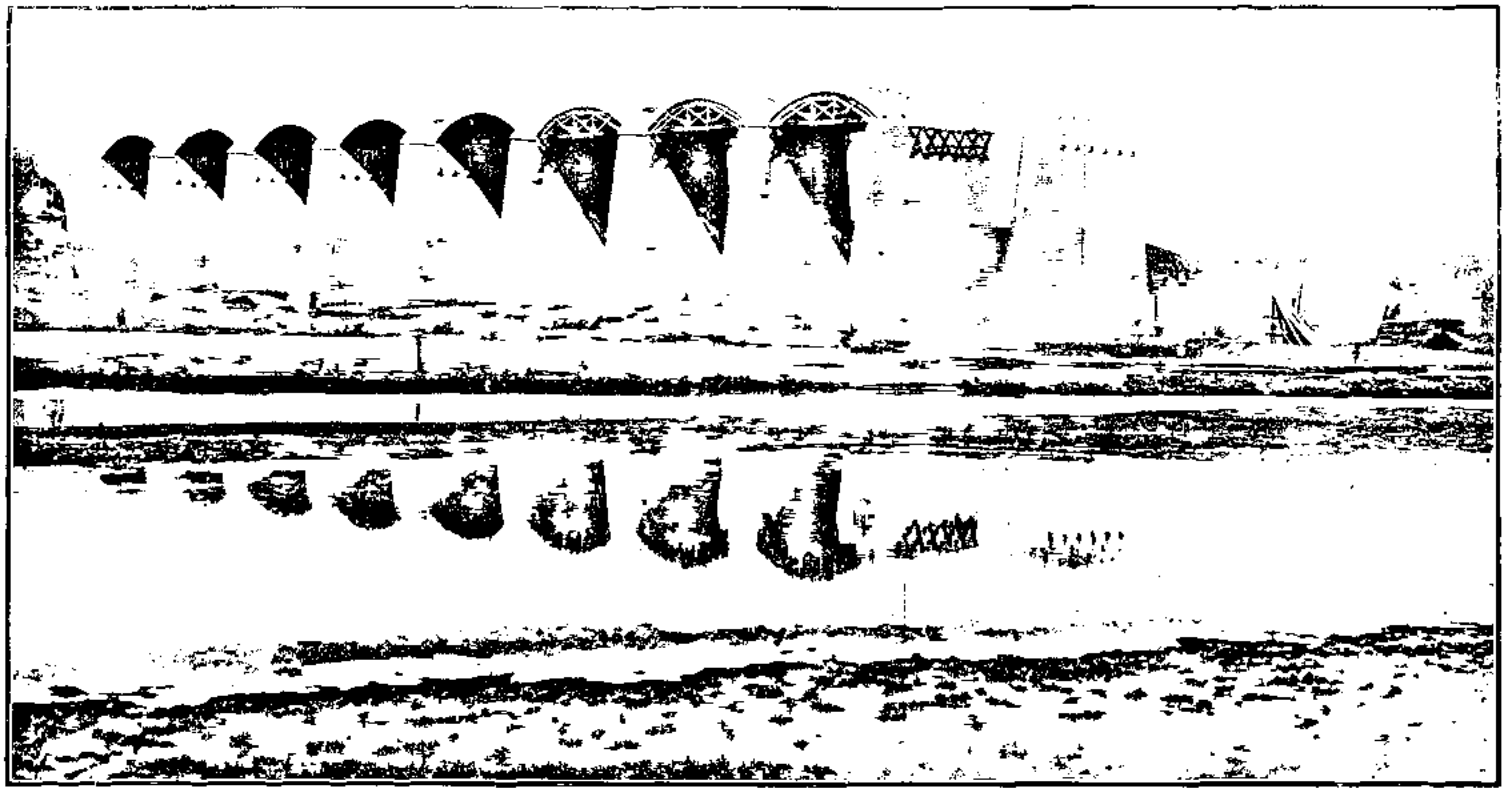
The principal works completed or nearly so during the year were :—

Improvements to Mahim Wada road	Thana Division.
Renewing buckled plates of the Hope bridge at Surat.	Surat and Broach.
Metalling and muraming miles 7 to 11 of the Dohad Kundanpur road.	Kaira and Panch Mahals Division.
Metalling the side widths of the approaches of the Ellis Bridge at Ahmedabad.	Ahmedabad Division.
Improvements to the Badeh Nasirabad road.	Western Nara Divsion.
Providing seal coat of 'Spramex' on the Cemetery Malir road.	Karachi Buildings Division.
Converting a girder bridge into a masonry one over Nalla No. 43 in mile No. 6 of Ulva Panvel Road.	Thana Division.
Constructing a diversion road joining Ulva Panvel and Uran Panvel roads.	
High Level causeway over the Surya river on the Dahanu Jawhar road.	
Bridge over the Paniari Khadi on the Chikhli Matwad road.	Surat and Broach Division.
Constructing a road to connect Wellesley Road and Aundh Road No. 1.	Poona Division.
Bridge over the Amba river on the Dharamtar Mahableshwar road.	Ratnagiri Division.
Causeway across the Kumta creek on the Mirjan Madras Frontier Road.	Kanara Division
Improvements to the Poona Ahmednagar Road.	Ahmednagar Division.
Resurfacing and asphalting Ahmednagar Station road.	
Improvements to Khandesh Nizam's Frontier road.	Nasik Division.
Improvements to the road from Nasik to Nasik Road Railway station.	
Resurfacing mile No. 18 and portions of miles Nos. 6 and 27 of Surul Mahableshwar road.	Headquarters Works Division.
Improvements to Math Kasal road ..	Belgaum Division.
Improvements to Gotur Tasgaon road ..	
Improving the road surface of the Dharwar Saundatti-Bagewadi road.	Dharwar Division.
Improvements to the Sadashivgad Kadra road, Kumta Hubli road, Sirsi Kodkini road and Khanapur Yellapur road.	Kanara Division.
Improvements to Naushahro Pad Idan road ..	Nasrat Canals Division.
Improvements to Hala Shahadadpur road ..	Hyderabad Canals Division.
Improvements to Mirpurkhas Mirwah Gorchani road.	

Improvements to Mirpurkhas Sindhri road ..	Eastern Nara Division.

The principal works still in progress during the year were :—

Remetalling and asphalt surfacing to the Bombay Agra road miles 9/2 to 9/6.	Thana Division.
Reconstructing the abutments of the bridge and providing footpaths and training the river Shedi at Dakor.	Kaira and Panch Mahals Division.
Improvements to Bombay Poona road, Poona Ahmednagar road, Indapur-Sarati road *via* Bawda, Hadapsar Nira Bridge road, Kennedy road and Poona Khadakwasla road.	Poona Division.
Improvements to the Chalisgaon Edlabad road, Part II.	East Khandesh Division.
Improvements to certain miles of the Bombay Agra road.	
Improvements to certain miles of the Dhulia Bhusawal road and of the Dhulia Chinchpada road.	West Khandesh Division.
Approach road to Kasheli Bridge on the Bombay Agra road.	Thana Division.
Vented causeway over the Kaveri river on the Bulsar Chikhli road.	Surat and Broach Division.
Metalling and improving the road from Ahmedabad to Barwala section I (Sarkhej to Bavla).	Ahmedabad Division.
Extension of the Dhulia Bhusawal road to Nimar and Berar Frontiers.	East Khandesh Division.
Road from Chalisgaon to Malegaon ..	
Extension of the Chalisgaon Outramghat road to His Exalted Highness the Nizam's territory.	
Causeway across the Girna river near Jalgaon on the Dhulia Bhusawal road.	
Warsa Borzar road ..	West Khandesh Division.
Road from Raisingpur to Nandurbar ..	
Pimpalner Warsa road ..	
Causeway over the river Bhima at Dhond ..	Ahmednagar Division.
Causeway over the river Bhogawati on the Sholapur Barsi road ..	Sholapur Division.
Bridge over the river Tapti at Gidhad on the Bombay Agra road.	West Khandesh Division.
Road from Taloda to Shahada, section I, from Taloda to Prakash.	
Causeway over the Agadi Nalla in mile 17/2 of the Havanur Ekambi road.	Dharwar Division.
Causeway over the Malaprabha river at Govankop on the Hubli Sholapur road.	



G. P. Z. P. 1930.

BRIDGE OVER THE TAPTI RIVER ON THE BOMBAY AGRA ROAD
24th April 1928.

Main bridge-view from upstream side.
Piers 1 to 9 and arches 1 to 8 completed.

G. P. Z. P. 1928 BRIDGE OVER THE TAPTI RIVER ON THE BOMBAY AGRA ROAD

24th April 1928

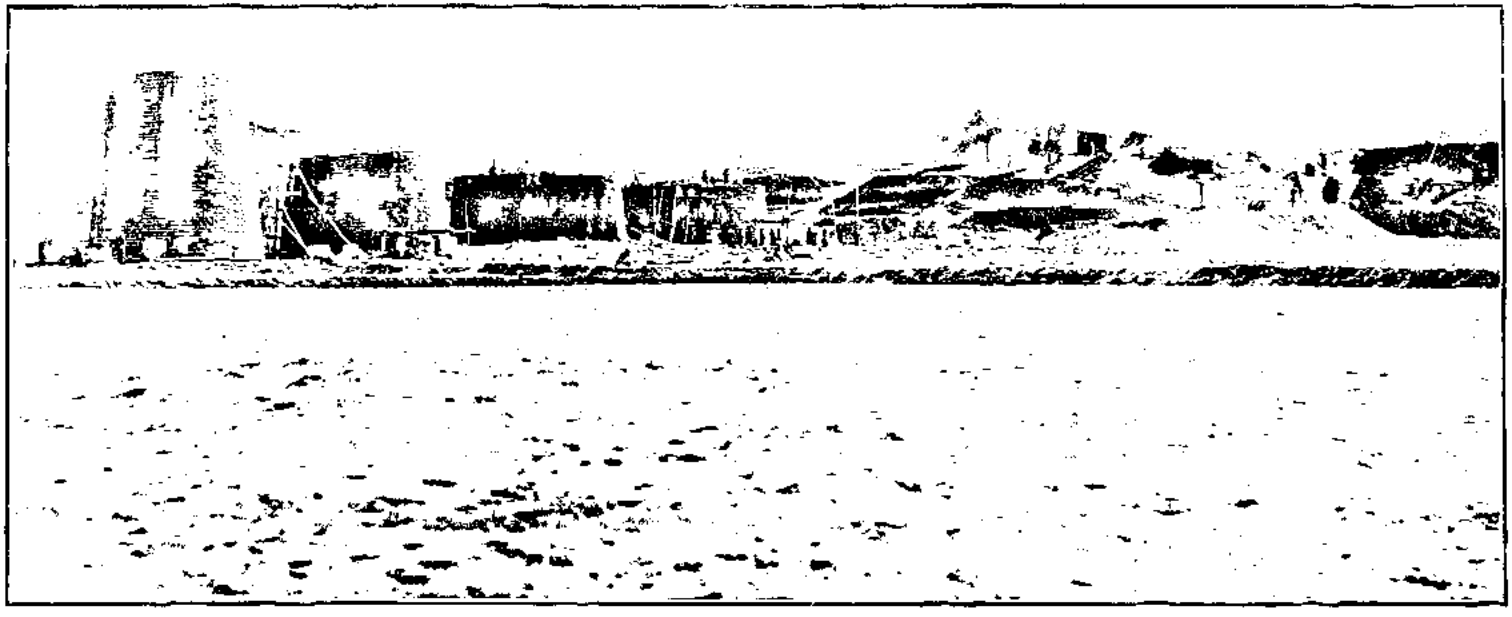
Main bridge-view from upstream side, from Bombay end piers 1 to 9, 18 to 21 and 24

Excavation for abutment on Agra side, in the distance

Estimated cost Rs. 15,59,449

Expenditure to end of 1927 28 Rs. 5,49,540.

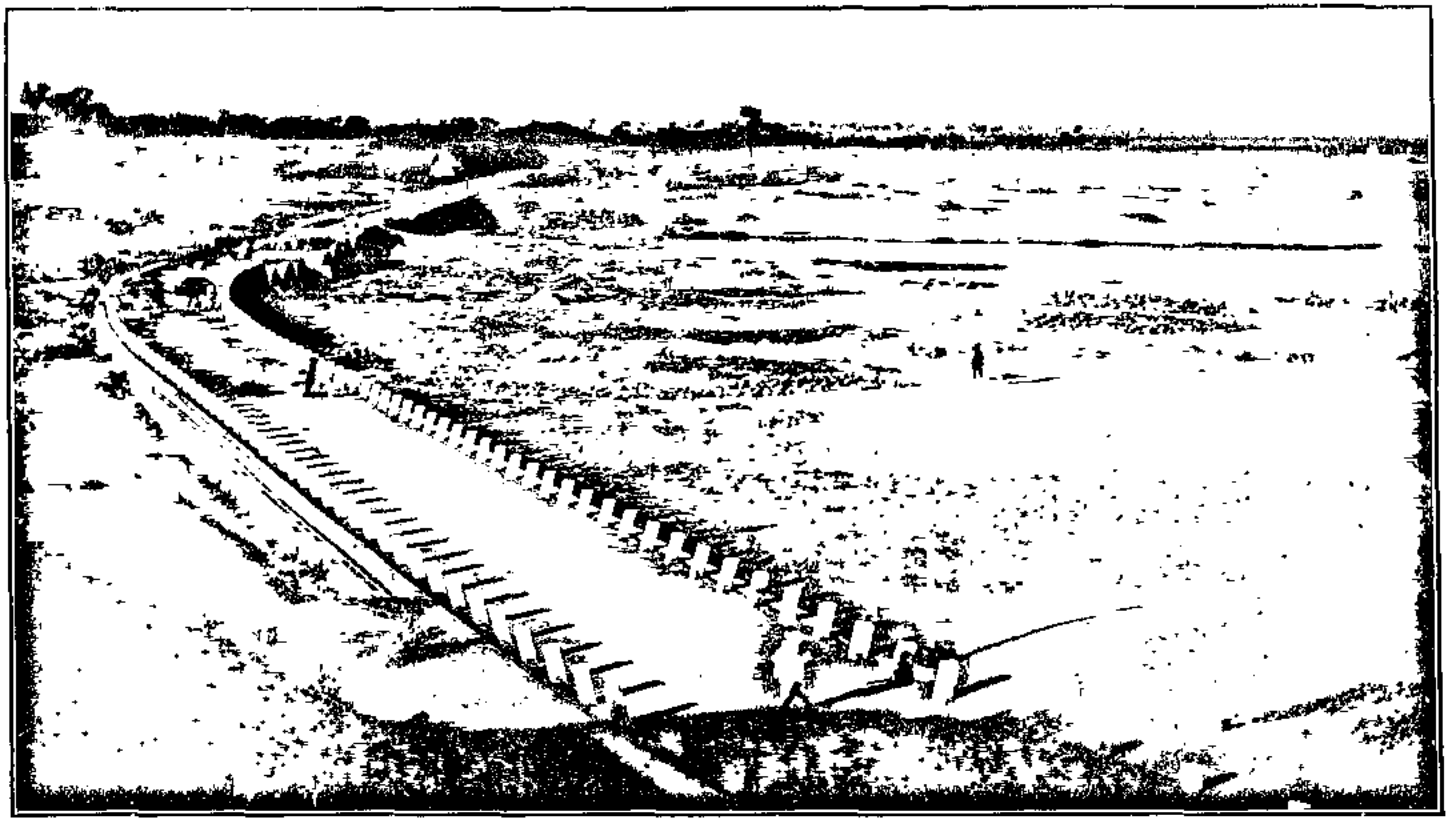
Work in progress



G. P. Z. P. 1931

BRIDGE OVER THE TAPTI RIVER ON THE BOMBAY AGRA ROAD
24th April 1928.

Main-bridge view from up-stream side. Piers 18 to 21 and 24.
Excavation for abutment on Agra side seen on the right.



G. P. Z. P. 933

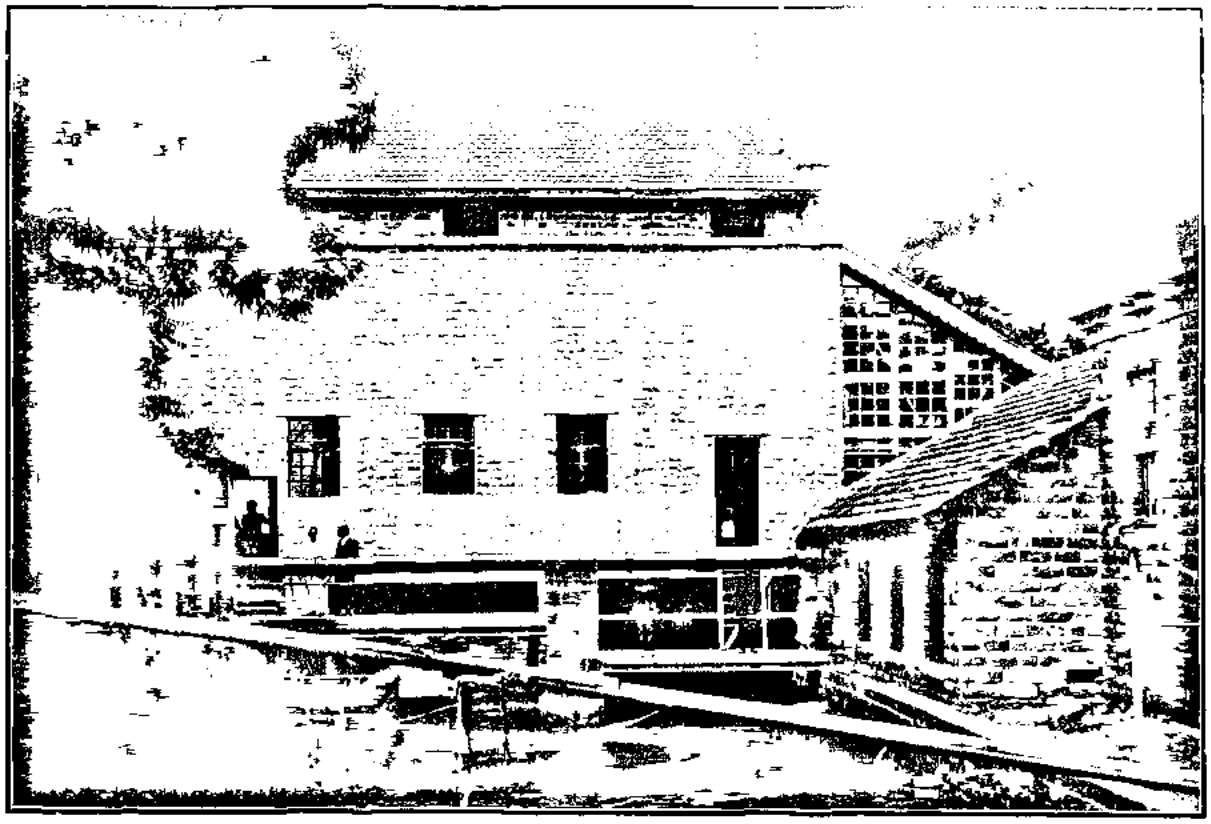
CAUSEWAY OVER THE RIVER BHIMA, NEAR DHOND

View from Ahmednagar side.

Estimated cost Rs. 2,88,139.

Expenditure to end of 1927-28 Rs. 1,98,090.

Work in progress.



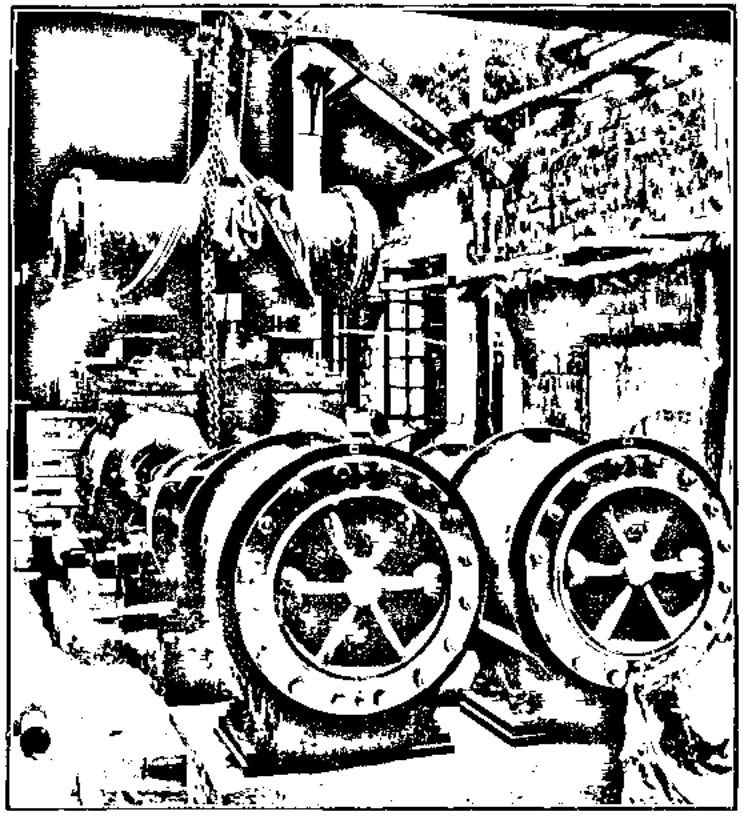
G. P. Z. P. 1930

POONA WATER WORKS

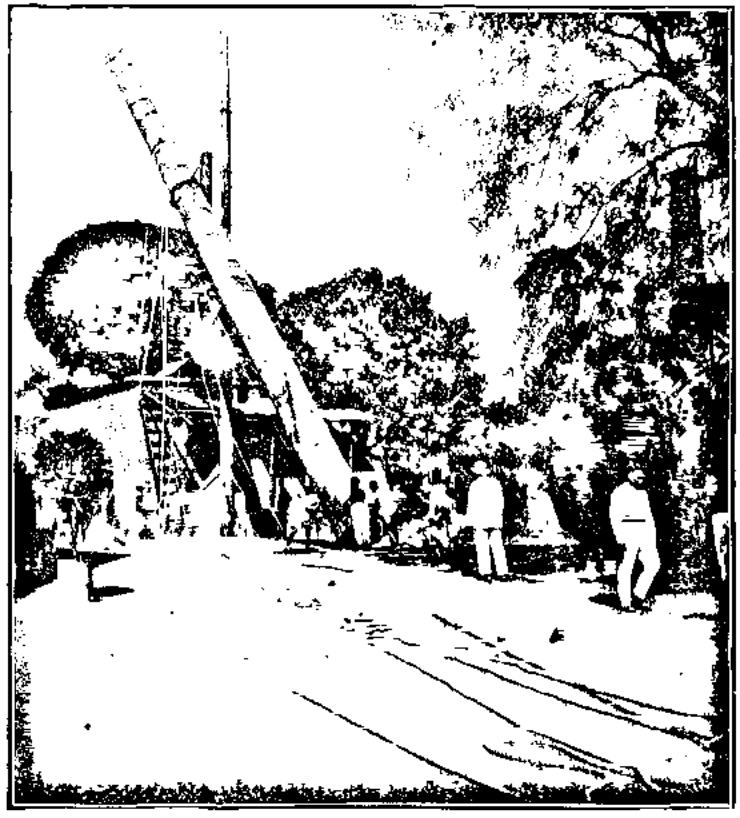
Boiler House

Estimated cost Rs. 1,46,204.

Expenditure to end of 1927-28 Rs. 1,44,668



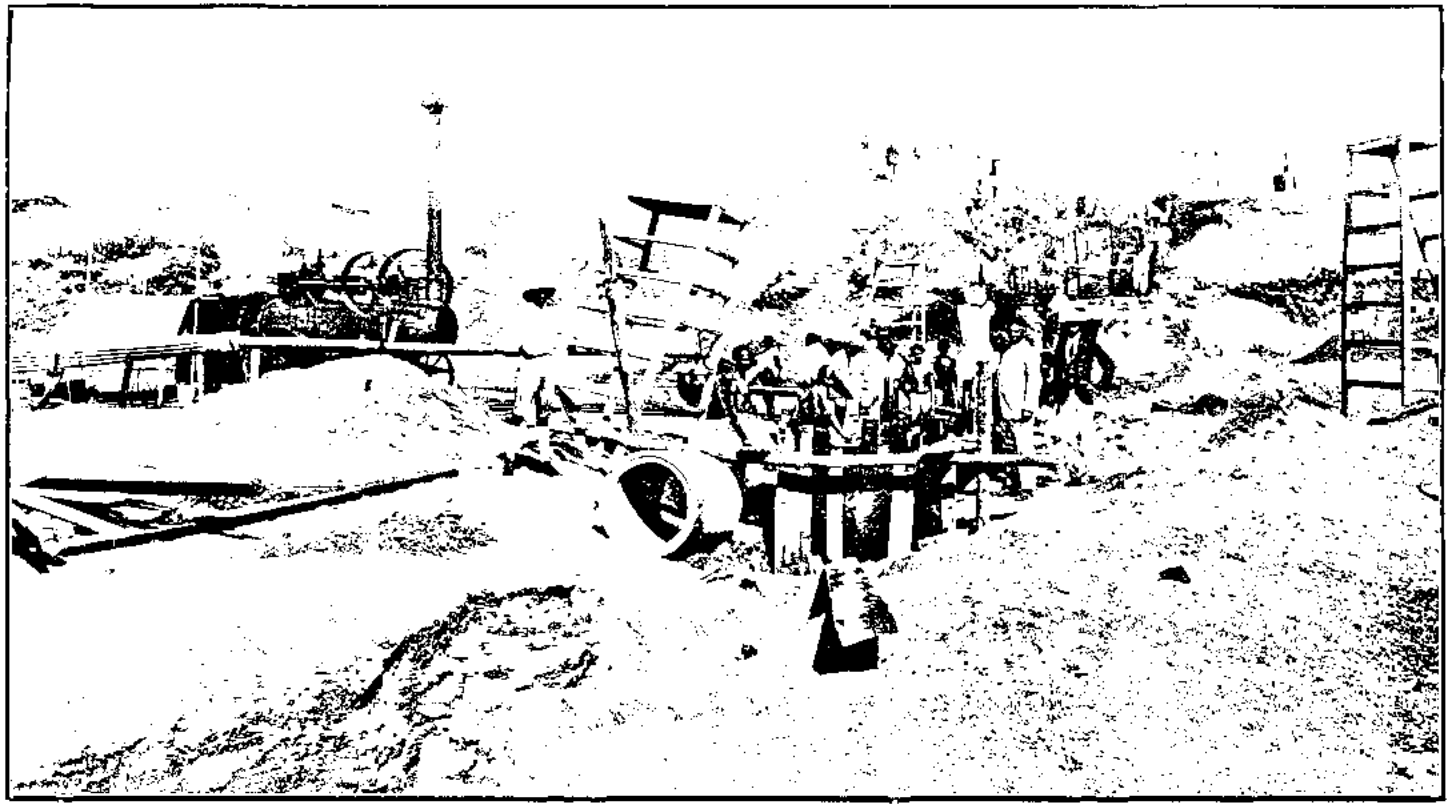
POONA WATER WORKS.
Pumps.



POONA WATER WORKS
Erection of new Chimney.

Estimated cost Rs. 4,667.
Expenditure to end of 1927-28 Rs. 3,369.

G. P. Z. P. 1930.



G. P. Z. P. 1933

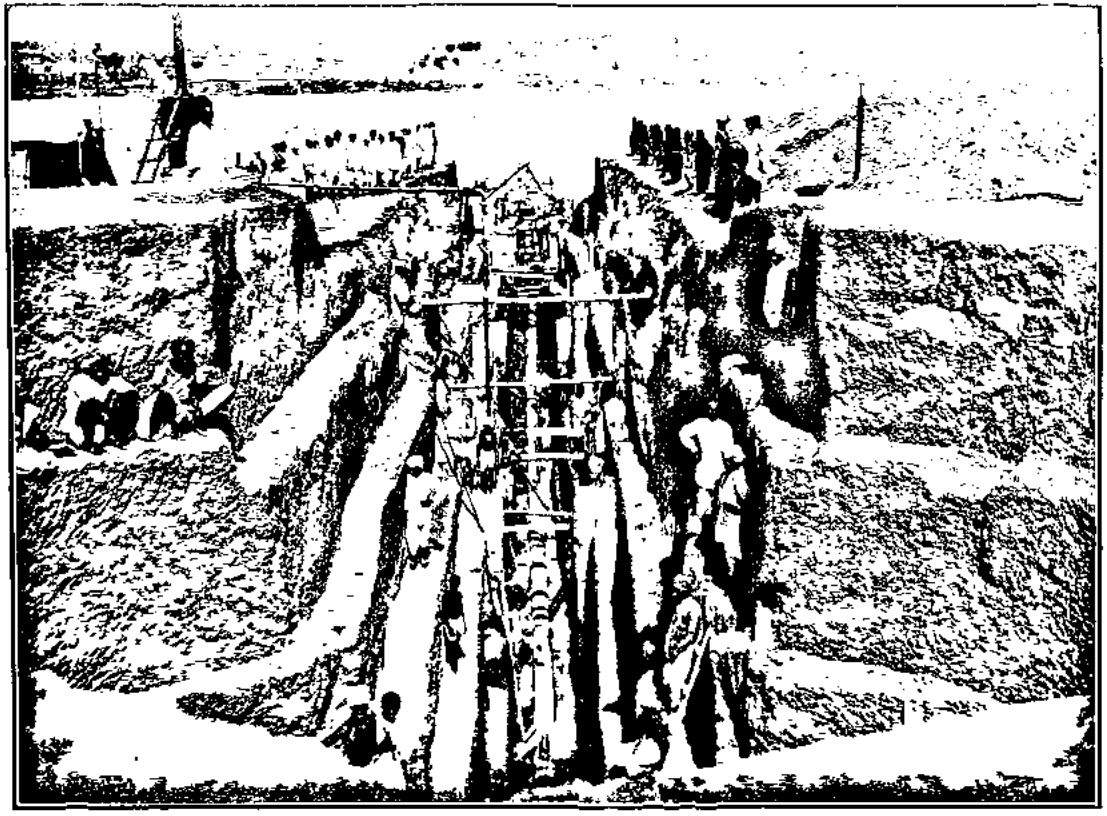
IMPROVEMENTS TO JALGAON WATER SUPPLY

Infiltration Gallery in the Girna River.

Estimated cost Rs. 6,83,054.

Expenditure to end of 1927-28 Rs. 2,08,108

Work in progress.



IMPROVEMENTS TO JALGAON WATER SUPPLY.
15" connection pipe from infiltration gallery to jack-well.

G. P. Z. P. 1930

Bridges over the Bav river, Saptalingi river and Jagbudi river on the Hatkhamba Poladpur road.	Ratnagiri Division.
Diversion road near Dhareshwar on the Mirjan Madras Frontier road.	Kanara Division.
Sukkur Shikarpur road	Shikarpur Canals Division.

Road Board.

The second meeting of the Road Board was held on the 16th March 1927 and the third meeting on the 16th March 1928. At the second meeting it was resolved *inter alia* that out of the amount of Rs. 5 lakhs provided in the budget for works under communications to be selected by the Road Board, Rs. 12,000 should be given to the Divisional Committee for expenditure on traffic census work and the balance spent on the execution of such works as may be recommended by the Divisional Committees and approved by Government. An item of importance that was discussed at the third meeting was in connection with the creation of a separate Provincial cadre of District Local Board Engineers on the lines of the Madras model and it was resolved that the District Local Boards should be consulted in the matter.

Arboriculture.

Nurseries were maintained at various places and the planting, watering and protection of road side trees continued to receive careful attention. About 75,664 trees were planted during the year along Provincial and Local Fund roads in charge of this Department.

E—Miscellaneous.

	Rs.
On works	8,03,034*
On repairs	1,02,321†
Total ..	9,05,355

Water Supply, Drainage and Boring.

Improvements to water works at Poona, Nasik Road, Central Prison, Nargund, Nipani, Pandharpur, Matheran, Kharpat villages near Uran, Jalgaon, Nandurbar, Dholka, Kapadwanj, Surat and Jacobabad were carried out during the year.

Drainage works at Kapadwanj, Gadag-Bettegeri, Sholapur, Dhulia and Tando Adam were carried out during the year.

Boring operations in connection with the water supply by power and hand boring machines were conducted at Aden, Amarapura, Arnej,

* Includes Rs. 7,60,855 from Deposits Municipal Funds, etc.

† Includes Rs. 69,143 from Deposits Municipal Funds, etc.

Chhaloda, Kariala, Koth, Mahudha, Manipur, Rupal, Sindhraj, Thori Thamba, Zinzra, Nandurbar and Nasik road.

About 66 schemes were under investigation during the year, the more important of them being the following :—

Water supply schemes at Athni, Hubli, Pandharpur, Sholapur, Dhulia, Satara, Panvel, Islampur, Rohri and Nasik.

Drainage schemes at Ahmednagar, Sholapur, Rohri, Andheri, Amalner, Bhusawal, Kotri and Mirpurkhas.

Technical Papers.

Up to the end of the calendar year 1927 the following Public Works Department Technical Papers had been issued :—

Reinforced Concrete Flooring in the Hostel for the High School at Satara (Bombay Presidency) by W. L. C. Trench, B.A.I., A.M.I.C.E., Executive Engineer and T. B. Mirchandani, B.Sc. (Edin.), Assistant Engineer.

Famine Relief Road Works carried out in the Banda District, United Provinces, in the famine of 1913-14 by D. R. H. Browne, A.K.C., Executive Engineer.

Note on the Lower Ganges Bridge Works at Sara, Bengal, by D. R. H. Browne, A.K.C., Executive Engineer.

Report on experiments on Concrete Flooring carried out at Poona (Bombay Presidency) by Conductor T. H. Naughton, Sub-Engineer.

Reinforced Concrete in the Bombay Presidency by J. C. Gammon, B.Sc., A.C.G.I., late Assistant Engineer, Bombay Public Works Department.

Reinforced Concrete Roof Construction for use with ceiling tiles by J. M. Mackay, A.M.I.C.E., Executive Engineer.

Report on the Felling of the Masonry Chimney at Dapuri (Bombay Presidency) by H. W. Oddin Taylor, A.C.G.I., B.Sc., Executive Engineer.

Notes on the Tests carried out with Reinforced Concrete Brick Walling loaded as a Beam, by Khan Saheb J. D. Dubash, Assistant Engineer.

Note on the Manufacture of Hydraulic Lime in the Nasik and Ahmednagar Districts of the Bombay Presidency 1920, by Rao Saheb V. K. Chapekar, Temporary Engineer.

Glossary of Irrigation Terms applicable to the Deccan Canals.

Report on the Malir River Boring Investigations for the Karachi Water Supply by H. O. B. Shoubridge, M.Inst.C.E., Chief Engineer for Irrigation.

A Note on the Design, Application and Construction of Masonry Semi-Modules as used on the Jamrao Canal by W. Kirkpatrick, Executive Engineer (2nd Edition).

Soil and Sub-soil Surveys in the Deccan Canal areas by C. C. Inglis, Executive Engineer, and V. K. Gokhale, Deputy Soil Physicist.

A short Note on the Improvement of Damaged Lands in the Canal Irrigation Tracts of the Bombay Deccan, by C. C. Inglis, Executive Engineer.

Note on Irrigation on the Block System in the Deccan Canal Tracts, by C. C. Inglis, I.S.E., Executive Engineer, Special Irrigation Division.

Note on the Effluent Farm near Poona (1918-19 to 1925-26) by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Executive Engineer, Special Irrigation Division.

To the above list were added the following papers during the calendar year 1928 :—

Notes on Standing Wave Flumes and Flume Meter Falls, by C. C. Inglis, Executive Engineer, Special Irrigation Division.

Note on the use of Hydro-Electric Power by small industries in Switzerland, Norway and Sweden, by F. O. J. Roose, M.I.M.E., M.I.E.E., Electrical Engineer to Government.

Note on the design of distributaries and their outlets in the Bombay Deccan by C. C. Inglis, B.A., B.A.I., A.M.Inst.C.E., Executive Engineer, Special Irrigation Division.

Note dated November 1927 on "Model experiments to ascertain the effect of partial lining of the Malegaon Cut" in miles 38 and 39 of the Nira Left Bank Canal, by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Executive Engineer, Special Irrigation Division and D. V. Joglekar, B.E., Assistant Engineer.

Note on the outturn and profit from sugarcane crops grown in the Deccan Canal Tracts, by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle.

Note on Experiments carried out at the Hydraulic Testing Station at Distributary No. 5, Mutha Right Bank Canal, near Poona with a Lindlay type Standing Wave Flume, by C. C. Inglis, B.A. B.A.I., M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle, Bombay, with the assistance of D. V. Joglekar, B.E., Assistant Engineer.

A note on Standing Wave Pipe Outlets, by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle, Bombay.

Report on Land Drainage Experiments at Baramati, by C. C. Inglis, B.E., B.A.I., M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle, Bombay.

Moduling operations on Distributary No. 8, Nira Left Bank Canal and application of the results to other distributaries by C. C. Inglis, B.A., B.A.I., A.M.Inst.C.E., Superintending Engineer, Irrigation

Development and Research Circle, Bombay, with D. V. Joglekar, Assistant Engineer.

Reports on tests made on a model of the group of Regulators at Oderolal at mile 169 approximately of the Rohri Main Canal Sind, by C. G. Hawes, M.C., B.Sc. (Lon.), A.C.G.I., A.M.Inst.C.E., Executive Engineer, Central Designs Division, Karachi and C. C. Inglis, B.A., B.A.I., A.M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle, Poona.

Railways.

The Railway lines in the Bombay Presidency are not administered by the Government of Bombay but are under the direct control of the Railway Board. The Railway Board has also the control of Railway lines in the Indian States within the Bombay Presidency.

The total length of Railway open for traffic in the Bombay Presidency (including Sind) was 5689·59 miles including 94·57 miles of line newly opened, *viz.*—

(1) Hotgi-Sholapur Railway (length 9·66 miles).
(2) Pandharpur-Miraj Extension (Length 84·92 miles).

3. (1) Land required for the construction of the Jambusar-Kavi Railway was taken over and 95 per cent. of the formation and 50 per cent. of the permanent-way linking was completed.

(2) Land required for the construction of the Sanmi-Dehej Railway was taken over and 93 per cent. of the formation and 25 per cent. of the permanent-way linking was completed.

(3) Boriavi-Vadtal and Vasad-Kathana Railways.—Arrangements for acquisition of land were in hand.

(4) The electrified lines between Colaba and Borivli were opened by His Excellency the Governor of Bombay on 5th January 1928.

4. The following surveys were completed or in progress:—

(1) Diva-Dasgaon Railway (late Mumbra Mahad).
(2) Malad-Karodi-Marh Railway.
(3) Bassein-Agashi-Virar Railway.
(4) Ankleshwar-Hansot-Sahol Railway.
(5) Asarva-Kapadvanj Railway.
(6) Hubli-Dharwar-Saundatti-Belgaum Railway.
(7) Nipani-Raibag Railway.
(8) Raibag-Bagalkot Railway.
(9) Bagalkot-Hungund-Ilkal Railway.
(10) Koregaon-Satara Railway.
(11) Hatkangale-Vadgaon Railway.
(12) Shirol Road-Shirol Railway.
(13) Pandharpur-Lonand Extension.
(14) Sind Left Bank Feeder Railways.
(15) Sind Right Bank Feeder Railways.
(16) Bombay Sind Connection Railway.
(17) Jhol-Miral Railway.

APPENDIX I

APPENDIX

Statement showing the expenditure on Civil and

Service Heads.	Original Works.				
	Grant.	Outlay.			Grant.
		As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.	
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
43-FAMINE RELIEF ..	....	....	....	....	....
50-MILITARY WORKS					
Works	3,084	680	....	680	75,390
Establishment .. Non-Voted ..	....	....	....	....	....
Establishment .. Voted ..	....	....	....	....	....
Tools and Plant	....	....	....	....	....
Suspense	....	....	....	....	....
Total Military Works ..	3,084	680	....	680	75,390
41-CIVIL WORKS, CENTRAL					
Buildings .. Non-Voted ..	2,11,699	1,93,290	58	1,93,348	91,222
Buildings .. Voted ..	2,27,652	1,69,125	*6,913*	1,62,212	2,53,500
Communications—					
Miscellaneous .. Non-Voted ..	....	....	....	....	....
Miscellaneous .. Voted ..	....	....	....	....	....
Establishment .. Non-Voted ..	....	....	....	....	....
Establishment .. Voted ..	....	....	....	....	....
Tools and Plant. Non-Voted ..	....	....	....	....	....
Tools and Plant. Voted ..	....	....	....	....	....
Grant-in-aid	....	....	....	....	....
Suspense .. Non-Voted ..	....	....	....	....	....
Suspense .. Voted ..	....	....	....	....	....
Deduct—English cost of Stores and Establishment—					
Establishment Stores Non-Voted	....	....	....	....	....
Establishment Stores Voted ..	....	....	....	....	....
Loss or gain by Exchange—					
Establishment—Non-Voted ..	....	....	....	....	....
Expenditure in England Establishment—Non-Voted ..	....	....	....	....	....
Total 41-Civil Works, Central ..	4,89,351	3,62,415	*—6,855*	3,55,560	3,44,722
Carried over ..	4,42,385	3,63,095	—6,855	3,56,240	4,20,112

Military Works during the year 1927-28.

Repairs.			Total.			
Outlay.				Outlay.		
As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.	Grant.	As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
56,954	....	56,954	78,424	57,634	....	57,634
....	....	....	3,230	3,350	....	3,350
....	....	....	....	1,692	....	1,692
....	....	....	213	398	....	398
....	....	....	....	....	....	....
56,954	....	56,954	81,876	63,074	....	63,074
87,684	48	87,732	3,02,921	2,80,974	106	2,81,080
2,25,386	11,061	2,36,447	4,81,152	3,94,511	4,148	3,98,659
....	....	....	....	....	....	....
2,493	....	2,493	....	2,493	....	2,493
....	....	....	1,33,183	68,644	....	68,644
....	....	....	1,16,816	80,488	....	80,488
....	....	....	6,894	642	....	642
....	....	....	14,613	8,039	....	8,039
....	....	....	6,000	6,000	....	6,000
....	....	....	....	1,04,059	60	1,04,119
....	....	....	....	1,463	1	1,464
....	....	....	17,500	12,157	....	12,157
....	....	....	1,000	....	....	....
....	....	....	....	47	....	47
....	....	....	17,500	12,110	....	12,110
3,15,563	11,109	3,26,672	10,60,579	9,47,313	4,315	9,51,628
3,72,517	11,109	3,83,626	11,42,455	10,10,387	4,315	10,14,702

APPENDIX

Service Heads.	Original Works.				
		Outlay.			
	Grant.	As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.	Grant.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward ..	4,42,385	3,63,005	−6,855	3,56,240	4,20,112
41-CIVIL WORKS, PROVINCIAL					
Buildings .. Reserved ..	1 ,0	1,18,180	....	1,18,180	2,59,000
Buildings .. Transferred ..	10,66,716	11,80,631	2,618	11,83,249	
Communications	13,78,828	9,82,159	71,988	10,54,147	53,18,173
Miscellaneous	19,860	18,489	....	18,489	
Establishment Reserved. Non-Voted ..	....	....	....	....	....
Establishment Reserved. Voted ..	....	....	....	....	....
Establishment Transferred. Non-Voted ..	....	....	....	....	....
Establishment Transferred. Voted ..	....	....	....	....	....
Tools and Plant Reserved ..	....	....	....	....	....
Tools and Plant Transferred ..	....	....	....	....	....
Grant-in-aid	....	....	....	....	....
Suspense	....	....	....	....	....
Deduct—English cost of Stores and Establishment—					
Transferred Stores ..	....	....	....	....	....
Transferred Establishment. Non-Voted ..	....	....	....	....	....
Transferred Establishment. Voted ..	....	....	....	....	....
Loss or gain by Exchange—					
Transferred Stores ..	....	....	....	....	....
Transferred Establishment. Non-Voted ..	....	....	....	....	....
Transferred Establishment. Voted ..	....	....	....	....	....
Expenditure in England—					
Transferred Stores ..	....	....	....	....	....
Transferred Establishment. Non-Voted ..	....	....	....	....	....
Transferred Establishment. Voted ..	....	....	....	....	....
Total 41-Civil Works, Provincial .	25,84,404	22,99,459	74,606	23,74,065	55,72,173
Total carried over ..	30,26,789	26,62,564	67,751	27,30,305	59,92,285

I—*contd.*

Repairs.				Total.		
Outlay.			Grant.	Outlay.		
As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.		As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,72,517	11,109	3,83,626	11,42,455	10,10,387	4,315	10,14,702
2,48,676	....	2,48,676	3,78,000	3,66,856	....	3,66,856
16,65,805	4,756	16,70,061	77,78,577	28,45,936	7,374	28,53,310
36,60,180	44,625	37,04,805		46,42,339	1,16,613	47,58,952
32,118	....	32,118		50,607	....	50,607
....	....	....	....	21,630	....	21,630
....	....	....	91,000	62,177	....	62,177
....	....	....	14,04,000	5,37,070	....	5,37,070
....	....	....	14,28,960	15,78,572	....	15,78,572
....	....	....	11,000	16,202	....	16,202
....	....	....	1,66,899	2,97,309	....	2,97,309
....	....	....	21,73,983	21,16,016	*– 13*	21,16,003
....	....	....	2,34,674	67,258	*– 1,57,204*	*– 89,946*
....	....	....	2,43,600	48,937	*– 78*	48,859
....	....	....	2,47,000	2,29,197	*– 6*	2,29,191
....	....	....	41,000	35,450	*– 9*	35,441
....	....	....	....	*– 16*	....	*16*
....	....	....	....	1,090	....	1,090
....	....	....	....	157	....	157
....	....	....	2,43,600	48,868	5	48,873
....	....	....	....	2,28,107	*6*	2,28,101
....	....	....	....	35,293	*9*	35,284
50,06,270	49,381	50,55,660	1,33,79,093	1,26,01,947	*– 33,147*	1,25,68,800
50,78,796	60,490	50,39,286	1,45,21,548	1,36,12,334	*– 28,832*	1,35,83,502

Service Heads.	Original Works.				
		Outlay.			
	Grant.	As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.	Grant.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward ..	30,26,789	26,62,564	67,751	27,30,305	59,92,285
60-CIVIL WORKS					
Buildings	....	17,60,977	....	17,60,977	....
Communications	....	7,01,047	....	7,01,047	....
Miscellaneous	....	....	....	....	....
Establishment .. Non-Voted..	....	....	....	....	....
Establishment .. Voted ..	....	....	....	....	....
Tools and Plant	....	....	....	....	....
Total 60-Civil Works ..	....	24,62,024	....	24,62,024	....
District Local Fund ..	....	....	....	....	....
Deposit Contribution ..	....	....	....	....	....
Grand Total ..	....	....	....	....	....

I—*concld.*

Repairs.			Total.			
Outlay.				Outlay.		
As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.	Grant.	As per accounts for March 1928 final.	Subsequent adjustments by journal entries.	Total.
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
59,78,796	60,490	60,39,286	1,46,21,548	1,36,12,334	−28,832	1,35,83,502
....	....	....	25,05,204	17,60,977	....	17,60,977
....	....	....	9,69,596	7,01,047	....	7,01,047
....	....	....	....	....	....	....
....	....	....	....	1,26,116	....	1,26,116
....	....	....	3,34,000	4,32,991	....	4,32,991
....	....	....	1,04,200	68,761	....	68,761
....	....	....	44,13,000	30,89,892	....	30,89,892
....	....	....	....	1,66,149	....	1,66,149
....	....	....	....	13,41,691	....	13,41,691
....	....	....	....	1,82,10,066	−28,832	1,81,81,234

S. K. MEHTA,
Assistant Accounts Officer.

APPENDIX

Statement of Roads not within Municipal boundaries, giving lengths of Local Authorities, respectively

Name of Circle	Name of Division	Length of metalled roads maintained by the P. W. D.		Lenght of unmetalled roads maintained by the P. W. D.	
1	2	3		4	
		M.	Ft.	M.	Ft.
Presidency Proper					
Northern Circle ..	Thana	(a) 451	3,354	(a) 8	660
	Surat	176	2,576	15	4,618
	Broach	53	5,178	....	
	Kaira	180	3,719	9	680
	Panch Mahals	(f) 156	1,480	17	2,640
	Ahmedabad	(h) 131	2,406	(i) 69	3,960
	Total, Northern Circle ..	1,250	2,963	120	1,998
Central Circle	Poona	(g) 418	3,580	(j) 19	4,070
	Head Quarters Works ..	(k) 25	2,292	....	
	Satara	(l) 445	3,579	(l) 38	4,290
	Sholapur	224	1,026	....	

Note.—The lengths of Provincial roads in columns 3 and 4 in the above statement are exclusive of now required to contribute towards the maintenance of Provincial roads passing through their limits

(*a*) The increases in columns 3 and 4 are due to certain new lengths of roads constructed during the

(*b*) The increase in column 5 and the decrease in column 6 is due to certain unmetalled roads having taken up for repairs.

(*c*) The increase in column 5 and the decrease in column 6 is due to certain unmetalled lengths of

(*d*) The increase in column 5 and the decrease in column 6 is due to certain unmetalled length of

(*e*) The increase in column 9 is due to certain length of roads lying in municipal limits having been

(*f*) The decrease in column 3 is due to certain length of Limkheda Jhalod road having been handed

(*g*) The increase in column 5 and the decrease in column 6 is due to certain length of roads having

(*h*) The increase in column 3 is due partly to certain new lengths of Provincial roads having been

(*i*) The decrease in column 4 is due partly to the conversion of certain unmetalled length of roads the year.

(*j*) The increase in column 3 is due to retransfer of certain roads for maintenance from the Lake merged in the Mulshi Lake during the year.

(*k*) The increase in column 3 is due to a certain length of roads having been constructed during

(*l*) The increase in column 3 and the decrease in columns 4, 9 and 10 is partly due to certain length being within municipal limits having now been correctly shown. The increase in column 6 is due to a

II

metalled and unmetalled roads maintained by the Public Works and during the year 1927-28.

Length of metalled roads maintained by Local authorities		Length of unmetalled roads maintained by Local authorities		Total length of metalled roads		Total length of unmetalled roads		Remarks: Metalled roads maintained by the P. W. D. in Municipal limits		Remarks: Unmetalled roads maintained by the P. W. D. in Municipal limits	
5		6		7.		8		9		10	
M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.
(a) 357	2,564	(a) 90	1,389	764	1,947	325	1,441	13	1,190	....	
(b) 111	(b) 4,684	(b) 247	3,210	288	1,980	263	2,548	....		....	
(c) 32	(c) 4,070	(c) 89	660	86	3,968	89	660	1	1,020	....	
(d) 46	3,202	(d) 19	1,207	227	1,641	28	1,887	(e) 10	3,218	....	
(g) 14	4,968	(g) 19	3,300	171	1,168	37	660	1	1,980	....	
57	298	272	2,119	188	2,794	342	799	....		....	
620	3,940	738	1,326	1,726	2,938	1,085	2,715	26	3,028	....	
82	4,330	1,407	2,745	496	2,630	1,427	1,535	38	3,971	....	
....		....		25	2,292	....		7	4,380	....	
207	2,970	(f) 1,186	2,310	653	1,260	1,225	1,320	(f) 6	4,531	....	
109	2,285	509	4,620	333	3,311	509	4,620	19	3,889	....	

portions passing through the municipal limits. The Municipalities in the Bombay Presidency are not and the length of these are shown in the remarks column.

year. The decreases in columns 5 and 6 are due to correct figures now reported by the Local Boards.

been metalled during the year. The decrease in column 6 was partly made up by certain new roads

roads having been metalled during the year.

roads having been metalled during the year.

provincialised during the year.

over to the Baria State and the portion from Baria State limits to Limdi having been deprovincialised.

been converted into metalled ones.

constructed and partly to certain unmetalled lengths of roads having been metalled during the year.

into metalled ones and partly to the adjustment of certain lengths by actual measurements during

Whiting Division and the decrease in column 4 is due to a portion of certain roads having been sub-

the year.

of unmetalled roads having been metalled and partly to certain length of roads previously shown as new length of road having been taken over for maintenance by the District Local Board.

APPENDIX

Name of Circle	Name of Division	Length of metalled roads maintained by the P. W. D.		Length of unmetalled roads maintained by the P. W. D.	
1	2	3		4	
Presidency Proper—contd.		M.	Ft.	M.	Ft.
Central Circle—*contd.*	Ahmednagar	(m) 308	4,248	(m) 59	0
	Nasik	(n) 514	1,558	9	1,065
	East Khandesh	(o) 314	3,287	(o) 5	..
	West Khandesh	(p) 332	5,200	2	3,960
	Total, Central Circle ..	2,579	3,609	134	2,825
Deccan Irrigation Circle ..	Lake Whiting	38	4,028	....	
	Malsiras	108	553	73	1,068
	Total, Deccan Irrigation Circle ..	146	4,581	73	1,068
Irrigation Development and Research Circle.	Nira Left Bank Canal ..	62	845	1	3,300
	Special Irrigation	....		....	
	Total, Irrigation Development and Research Circle.	62	845	1	3,300
Southern Circle ..	Belgaum	(q) 639	1,495	(q) 128	2,373
	Dharwar	(r) 520	3,362	(r) 89	760
	Ratnagiri	441	4,679	....	
	Kanara	(t) 334	3,061	(t) 250	4,240
	Total, Southern Circle ..	1,936	2,057	468	2,093
	Total for Presidency ..	5,875	3,455	798	724

(*m*) The decrease in column 3 and the increase in column 9 is due to certain length having been is due to the inclusion of certain bridle paths which are now maintained by the Public Works Depart- the District Local Board.

(*n*) The decrease in column 3 and the increase in columns 5 and 6 is due to retransfer of certain lengths having been taken over for maintenance by the District Local Board during the year.

(*o*) The increase in column 3 and decrease in column 4 is due to certain unmetalled length having

(*p*) The decrease in column 3 and the increase in column 9 is due to more lengths having been found 6 is due to the correct length of roads actually repaired by the District Local Board.

(*q*) The increase in columns 3 to 9 is due to the amalgamation of the Bijapur Division.

(*r*) The increase in columns 3, 4 and 9 is due to the transfer of certain lengths from Kanara and

(*s*) The increase in column 5 and the decrease in column 6 is due to the conversion of certain unmetalled

(*t*) The decrease in columns 3 and 4 is due to the transfer of certain lengths of roads to the Belgaum

II—*contd.*

Length of metalled roads maintained by local authorities		Length of unmetalled roads maintained by local authorities		Total length of metalled roads		Total length of unmetalled roads		Remarks: Metalled roads maintained by the P. W. D. in Municipal limits		Remarks: Unmetalled roads maintained by the P. W. D. in Municipal limits	
5		6		7		8		9		10	
M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.
405	1,915	(m) 335	3,960	714	883	394	3,960	(m) 4	4,985	....	
(n) 130	4,233	(n) 848	3,570	645	511	852	4,635	13	4,491	1	1,575
199	3,986	259	3,094	514	1,948	264	3,094	18	4,180	..	3,900
(p) 35	508	(p) 37	4,826	368	437	40	3,508	(p) 8	4,188	....	
1,170	4,387	4,580	4,007	3,750	2,716	4,715	1,552	119	2,935	1	255
....		....		38	4,028	....		....		....	
....		....		108	533	73	1,068	3	2,617	....	
....		....		146	4,561	73	1,068	3	2,617	....	
..	4,290	....		62	5,135	1	3,300	....		....	
....		....		....		....		....		....	
..	4,290	....		62	5,135	1	3,300	....		....	
(q) 421	333	(q) 639	2,901	(q) 1,060	1,828	(q) 707	5,274	(q) 20	3,294	....	
379	4,049	219	2,106	900	2,131	308	2,866	(r) 15	2,144	5	1,194
(s) 348	700	(s) 920	5,254	790	99	920	5,254	11	2,670	....	
44	2,460	515	4,157	389	241	706	3,117	15	5,174	7	3,284
1,193	2,262	2,295	3,858	3,129	4,299	2,764	671	63	2,731	12	4,478
2,985	4,325	7,614	3,910	8,816	3,809	8,639	4,026	213	751	13	4,733

Included in municipal limits which have been extended during the year and the increase in columns 4 and 6 ment from Provincial Funds and to the addition of certain cart track taken over for maintenance by

District Local Board roads to the District Local Board, Nasik, for maintenance and to some more

been metalled and a new length having been constructed by the District Local Board during the year.

on re-measurement to be actually passing through municipal limits and the decrease in columns 5 and

Bijapur Divisions owing to abolition of the Bijapur Division.

length into metalled one and to the construction of certain new length of roads,

Division.

APPENDIX

Name of Circle	Name of Division	Length of metalled roads maintained by the P. W. D.		Length of unmetalled roads maintained by the P. W. D.	
1	2	3		4	
Sind		M.	Ft.	M.	Ft.
Indus Left Bank Circle ..	Nasrat Canals	(u) 8	4,483	(u) 9	1,320
	Hyderabad Canals	8	4,020	122	3,758
	Pulell Canals	3	2,640	56	2,339
	Eastern Nara	....		60	3,960
	Northern Jamrao Canal ..	....		(x) 317	3,300
	Southern Jamrao Canal ..	....		(z) 690	..
	Total, Indus Left Bank Circle..	11	1,183	1,344	4,117
Indus Right Bank Circle ..	Karachi Buildings	29	2,640	88	2,640
	Karachi Canals	18	2,640	4	4,620
	Western Nara	5	..	24	2,310
	Ghar Canals	....		....	
	Shikarpur Canals	(dd) 5	4,455	(dd) 17	4,542
	Begari Canals	....		30	2,640
	Total, Indus Right Bank Circle..	58	4,455	166	912
	Total for Sind ..	70	358	1,510	5,029
	Grand total ..	5,945	3,813	2,309	473

(u) The increase in column 3 and the decrease in column 4 is due to the conversion of certain

(v) The increase in columns 5 and 7 and the decrease in columns 6 and 8 is due to the metalling of

(w) The increase in columns 5 and 7 and the decrease in columns 6 and 8 is due to the metalling of

(x) These are service roads along canals.

(y) The increase in columns 5 and 7 and the decrease in columns 6 and 8 is due to the metalling of

(z) These are service roads along canals.

(aa) The increase in column 6 is due to revision and readjustment of roads.

(bb) The decrease in column 5 and the increase in column 6 is due to natural rocky portion of road Fund Department and to the readjustment made by the Local Board during the year.

(cc) The increase in column 5 and the decrease in column 6 is due to revision and readjustment

(dd) The increase in column 3 and the decrease in column 4 is due to the conversion of certain

II—*concld.*

Length of metalled roads maintained by local authorities		Length of unmetalled roads maintained by local authorities		Total length of metalled roads		Total length of unmetalled roads		Remarks: Metalled roads maintained by the P. W. D. in Municipal limits		Remarks: Unmetalled roads maintained by the P. W. D. in Municipal limits	
5		6		7		8		9		10	
M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.	M.	Ft.
....		921	3,274	3	4,483	1,018	4,594	....		....	
(v) 8	1,320	(v) 607	..	(v) 12	660	(v) 729	3,758	....		....	
(w) 4	..	(w) 761	..	(w) 6	2,640	(w) 817	2,339	....		....	
....		2,467	1,980	....		5,258	660	..		....	
..	3	(y) 223	1,320	..	3	(y) 540	4,620	....		....	
....		235	2,640	....		925	2,640	....		....	
12	1,323	5,215	3,934	23	2,506	6,560	2,771	....		....	
0	1,320	(aa) 181	990	38	3,960	269	3,630	....		....	
(bb) 1	1,650	(bb) 978	2,310	19	4,290	983	1,650	....		....	
(cc) ..	3,960	(cc) 1,517	4,700	5	3,960	1,542	1,730	....		....	
..	3,600	759	1,437	..	3,600	759	1,437	....		....	
10	2,840	1,027	1,070	16	2,015	1,045	332	....		....	
....		1,080	2,640	....		1,111	..	....		....	
22	2,810	5,544	2,587	81	1,985	5,710	3,439	....		....	
34	4,133	10,760	1,241	104	4,491	12,271	990	....		....	
3,020	3,178	18,374	5,151	8,921	3,020	20,910	5,016	213	751	13	4,733

metalled roads into metalled ones.
certain length of unmetalled roads.
certain lengths of unmetalled roads.

certain length of roads.

previously shown under metalled roads having been now classed as unmetalled as reported by the Local

of roads.
unmetalled roads into metalled ones.

APPENDIX

Statement showing expenditure on establishment in the Roads and from the year 1921-22 to 1927-28 and percentage to the total outlay

Years	Expenditure on Establishment in the Roads and Buildings Branch						
	41, Civil Works—Provincial (Transferred and Reserved)	60, Civil Works	41, Civil Works—Central	50, Military Works	Deposit Works	Total	Percentage on the total outlay on works and repairs
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1921-22 ..	29,06,955	..	1 98,683	45,258	2,84,992	34,35,888	19·26
1922-23 ..	20,14,640	8,34,460	1,78,163	71,481	77,143	31,75,877	20·79
1923-24 ..	15,84,488	8,10,645	17,892	38,560	6,88,354	31,89,939	19·88
1924-25 ..	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19·67
1925-26 ..	13,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20·66
1926-27 ..	25,30,286	5,97,436	1,69,896	5,882	3,94,389	36,96,939	23·76
1927-28 ..	21,99,448	5,59,107	1,49,132	5,042	2,97,270	32,09,999	24·96

Note.—The percentage of the establishment charges on the cost of works and repairs in the Irrigation largely that the establishment charges in the Irrigation Branch include the cost of special Revenue Deccan which has no connection with the execution of works and repairs and that these charges also *control and distribution of water* which is debited in the accounts to "revenue management" and not to management" are deducted from the total cost of establishment in the "Irrigation Branch" the

III

Buildings and the Irrigation Branches of the Public Works Department on works and repairs during that period in both the Branches.

Expenditure on Establishment in the Irrigation Branches.

55,Construction of Irrigation, Navigation, Embankment and Drainage Works	XIII, Works for which Capital Accounts are kept	15, Other Revenue Expenditure financed from Ordinary Revenues	Deposit Works	Total Establishment charges	Percentage on the outlay on works and repairs in the Irrigation Branch	Total Establishment charges in the roads and buildings and Irrigation Branches	Percentage on the total outlay of works and repairs in roads and buildings and Irrigation Branches
9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	
11,53,734	13,85,960	6,68,651	2,770	32,11,115	33·59	66,47,003	24·26
14,20,751	13,44,901	5,34,327	1,993	33,01,972	32·22	64,77,849	25·38
21,87,793	14,43,222	4,82,013	2,050	40,65,084	33·89	72,55,023	25·87
29,10,786	17,37,724	5,26,301	492	51,75,362	28·73	84,91,025	24·35
32,21,647	17,99,343	5,19,228	2,581	55,42,899	21·62	90,66,854	21·23
35,56,959	18,08,386	5,94,989	3,207	59,63,540	30·56	96,60,479	27·54
36,98,056	19,20,773	7,80,312	3,847	64,03,888	26·00	96,13,887	25·64

Branch (column 14) is higher than that in the Roads and Buildings Branch (column 8). The reason is establishment employed entirely on "revenue management" work on certain canal systems in Sind and include cost of part of the time of Irrigation Establishment spent on revenue management including *the* execution of works and repairs. If these establishment charges debited in the accounts to "revenue percentage on the cost of works and repairs will not be so divergent.

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BOMBAY PRESIDENCY

PUBLIC WORKS DEPARTMENT

DIVISION MAP

1927-28

BALUCHISTAN AGENCY

RAJPUTANA AGENCY

ARABIAN SEA

CENTRAL INDIA AGENCY

CENTRAL PROVINCES

HYDERABAD

MYSORE

DIAGRAM SHOWING PUBLIC WORKS DEPARTMENT ADMINISTRATION